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ABSTRACT

The guidelines address the process-centered curriculum (employs knowledge not merely as a composite of information but as a system of learning) for gifted and talented students at North Penn Senior High School (Lansdale, Pennsylvania). The school's interdisciplinary program focuses on a single theme for each of three years: the humanities for year 1, futuristics for year 2, and global studies for the final year. Schedule factors are considered along with the curriculum's general objectives which include increased critical thinking and problem solving skills. Course outlines are then presented for each of the three theme plans. Materials and suggested activities are listed for units in humanities (concept of "What Is Man" examined in philosophical, historical, scientific, and creative terms--literature and mathematics--through cultural and historical periods from prehistoric man, Egyptian culture, Roman civilization through the Renaissance), futuristics (including the future as history and as progress and challenge), and global studies (including units on methodologies, communication and psycholinguistics). Appended material includes guidelines for grading and an independent study component. (CL)

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Gifted Resource

Curriculum Guide

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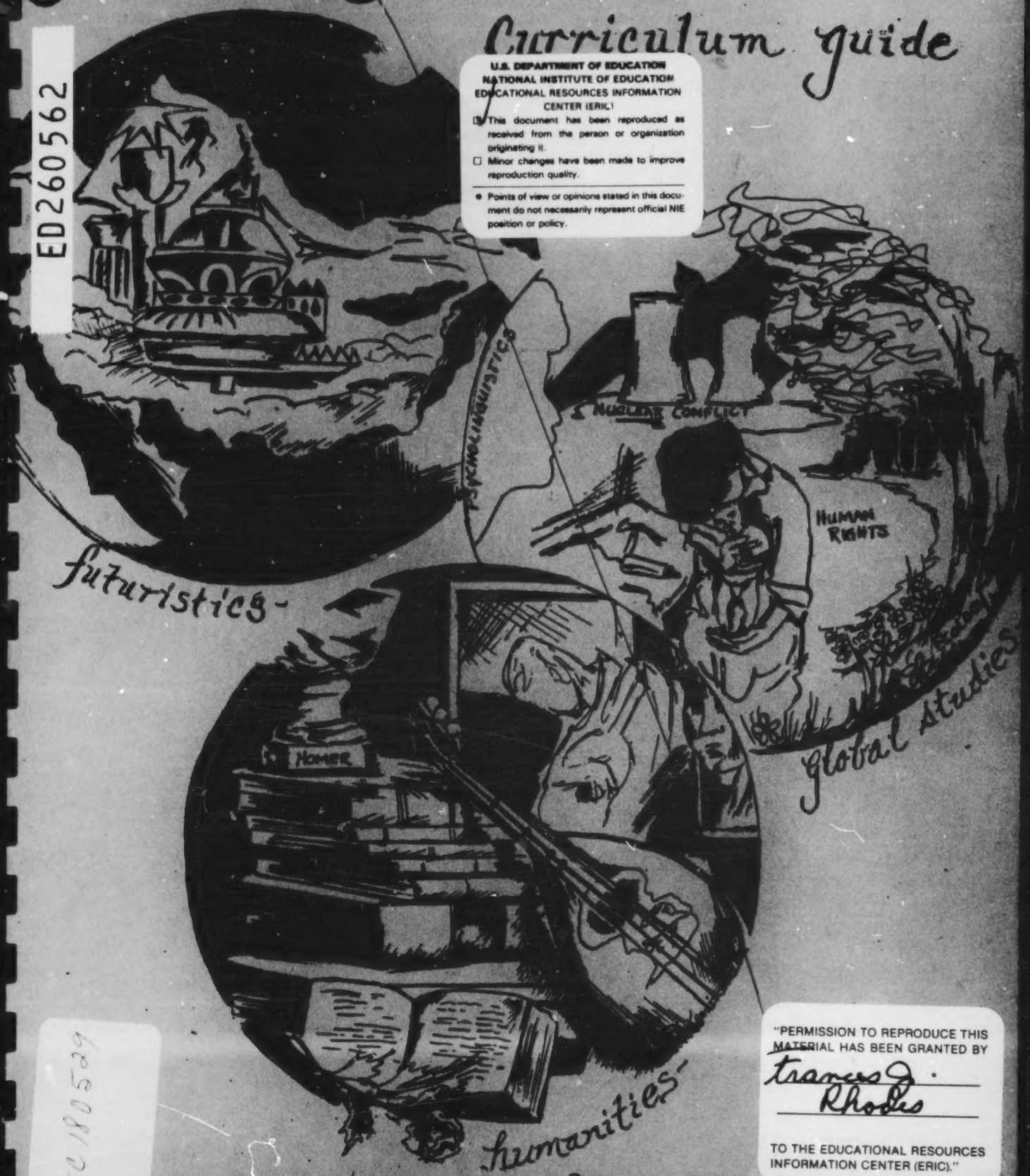

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NORTH PENN SCHOOL DISTRICT
400 Penn Street
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NORTH PENN HIGH SCHOOL
PROGRAM FOR GIFTED STUDENTS

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July 1, 1982
Revised: October 8, 1984

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THE DEVELOPMENT OF AN INTERDISCIPLINARY CURRICULUM FOR SECONDARY GIFTED AND TALENTED STUDENTS IN THE NORTH PENN SENIOR HIGH SCHOOL

I. INTRODUCTION

This Interdisciplinary Curriculum for Secondary Gifted and Talented Students in the North Penn Senior High School is process rather than content centered. By definition, a content centered curriculum is one which refers to a compendium of information -- a related body of facts, laws, theories, and generalizations.

In contrast, a process centered curriculum employs knowledge not merely as a composite of information but as a system of learning. Instructional strategies and the variety of processes through which knowledge is created and communicated is the scheme of the process centered curriculum.

II. NATURE OF THE POPULATION

Students in grades 10, 11, and 12 identified as gifted and talented in the North Penn Senior High School are the population for which this curriculum design has been developed.

By District definition, gifted indicates that the student has intelligence and creative ability which is above average, as determined by screening teams. The screening team consisting of the principal, psychologist, counselor, and teachers considers the prospective students for the program according to five criteria. Strength in each of the five areas is given a number of points. A total of ten (10) points is needed for a student to be eligible for individual psychological testing. Once a student attains the ten points, no further screening is necessary. The criteria include:

1. The Short Form Test of Academic Aptitude (SFTAA) Total I.Q.
2. Comprehensive Tests of Basic Skills (CTBS)
3. Parent Inventory
4. Scale for Rating Behavioral Characteristics of Superior Students (Renzulli-Hartman)
5. Checklist of Creative Positives (Torrance)

Each student has an Individualized Education Program (I.E.P.) containing annual goals and short term objectives reflecting the student's strengths and/or weaknesses. The process oriented curriculum introduced here further develops and remediates the skills of the student based upon a needs assessment completed by the teachers.

III. RATIONALE

As concern for meeting the needs of gifted and talented students has grown, school districts have begun paying more attention to the importance of providing gifted programs which are both educationally sound and qualitatively different. The North Penn School District decided early in the second semester of the 1978-79 academic year to move away from the program of separate major subject classes for gifted students in the high school. The district evaluation team felt that though there may have been some value in grouping gifted students together for special work in a particular subject area, all too often that special work was simply more of the same kind of content without any significant difference in teaching methods or anticipated responses from the students. The evaluation team, consisting of psychologists, administrators, parents, teachers, and students, recommended that an enrichment resource program exclusively for gifted students be developed. This resource program, with a major emphasis upon skill development, would include a core of teachers to serve as mentors for more advanced exploration of specific concepts and topics than can be dealt with in the regular classroom. Staff members from each of the four major subject areas - English, social studies, mathematics, and science - worked with the program coordinator to develop and implement a curriculum that would provide familiarity with not only a strong core of worthwhile content (knowledge) but also the methods of its acquisition and utilization (process).

The group decided upon an interdisciplinary program, hoping to break down the artificial parameters of subject areas. Over a period of three years, they would develop an interdisciplinary course, selecting a theme for each of three years. The major reasons for selecting the interdisciplinary model included:

1. A student learning in one discipline may use that knowledge to understand another, perhaps quite different, discipline.
2. The individual cognitive and affective needs of the student can best be met through interdisciplinary team effort.
3. Content and skill development can be readily correlated through interdisciplinary studies.
4. Interdisciplinary studies allow subject matter specialists to break down the barriers of their education specialty and move toward total programming.
5. A personal development program can best be implemented when it is integrated throughout all subject areas.
6. Planning periods can be used for coordinating instructional programs with student planning conferences.
7. Special interdisciplinary units and activities can be provided by a team to meet the needs of students above and beyond the regular curriculum.

Beginning the interdisciplinary program, the team designated the first year's theme as humanities. This thematic concept encompassed not only the traditional philosophical, literary, and artistic areas but also math and science, permitting the use of selected classics in a multidisciplinary study of man's place in the world. Initially,

III. Rationale (continued)

a syllabus was developed which included the curriculum and the theme plans for the humanities theme. The theme plans consist of the philosophy, general goals, justification, outline of content, strategies, materials, evaluation, and skill development. The justification of the specific objectives was based upon "A Needs Assessment for Gifted Education" (Appendix A).

For the second year of the sequence, the theme of futuristics was chosen. This curriculum was developed and included the rationale, the characteristics of futuristics education, course objectives, and theme plans to coordinate with the first year's program, humanities.

The third year of the program focused around global studies. Special seminars were incorporated into the curriculum as well as minicourses in specific areas of cultural contributions.

The ninth grade adopted a version of the 3-year gifted curriculum sequence September, 1982. The eighth grade became a part of the program, September, 1983.

IV. SCHEDULE DESIGN

While the strategies and learning activities are needed in developing curriculum, a basic conceptual design to implement the curriculum which follow is recommended. The North Penn High School, for which this curriculum was developed, operates on a six-day schedule; in other words, the school consists of a six-day cycle with the days identified by letters A through F. Taking into account the team's desire to provide at least three basic kinds of sessions during the one period each day when the Resource Course meets, the week, students, and staff will be divided in the following manner: A and B days will be devoted to students' independent projects which may be related to some aspect of the course content or may reflect a special area of interest totally outside the scope of the course. When possible, a student may be assigned to an independent study advisor whose academic area parallels the student's project. In some cases students' projects may take them to mentors in the community on the independent study days. Students and advisors will agree upon the nature and scope of each project and the anticipated date of completion. Some of these projects will require nearly a full year for completion. A block of days at the end of each semester will be set aside for students to discuss their projects and present results to the entire group.

C and D days constitute the heart of the thematic aspect of the Resource Course. On these days all students and teachers will meet in a large group instruction room. As a rule, one of the staff members will have the responsibility for the day's presentation, which may consist of a lecture, a directed discussion, student presentation, an audiovisual presentation, or a guest speaker--someone from the staff or a resource person from outside the school. These sessions provide the basis for a large part of the content core in the program, yet they also provide opportunities for some students to become the producers and presenters.

E and F days will be seminar days. On these days students will divide among the four advisors, who discuss and build upon large group presentations, deal more specifically with the ways in which a content area is reflected in a given culture or historical period, or plan presentations

IV. Schedule Design (continued)

for the total group. Many of the "housekeeping" chores of the Resource Course can be handled in the seminar meetings--planning for field trips, discussing written assignments, checking students' log books, and discussing students' concerns about various aspects of the program.

The program cycle permits a reasonable degree of variety and flexibility. While the independent study days remain relatively inviolate, seminar days and large group days can be shifted whenever the program seems to warrant such an adjustment.

Six-week-block scheduling has also been used to facilitate the operation of the special seminars and minicourses.

V. GENERAL OBJECTIVES

A. Nature of the Objectives

The North Penn School District is committed to providing a program for educating gifted and talented students according to their abilities, interests and needs. This program will be qualitatively different from other programs in that it is designed to guide students through an educational program which will encourage them to develop their capabilities and uniqueness.

B. Objectives

The goals of the gifted program address themselves to the development and refinement of the following skill areas:

1. The student will independently investigate objective and subjective research on an individual interest level, under the direction of the gifted resource teaching staff.

   1.1 The student will investigate solutions to a problem he/she and/or the group has chosen.

   1.2 The student will use a variety of sources of information such as interviews, questionnaires, rating scales, journals, and speeches to investigate the problem.

   1.3. The student will employ appropriate methods of inquiry in his/her investigation, using sources in addition to the library.

2. The student will engage in activities designed to increase skills in critical thinking and problem solving.

   2.1 The student will critically analyze diverse points of view on an issue in the light of his/her own investigation.

   2.2 Using data collected from organizations, resource people, and members of the community with diverse points of view about a specific issue, the student will pursue his/her investigation.

   2.3 The student will summarize the data in such a way that supports an alternative theory, compares or contrasts points of view, or analyzes information to develop new conclusions or generalizations.

3. The student will develop strength in communication skills by expressing himself/herself through a variety of media.

   3.1. The student will contribute to a group presentation.

   3.2. Using appropriate media and graphic representation to summarize his/her investigation, the student will present his/her findings to the group.

V. General Objectives (continued)

3.3. The student will select the media and the message and present it to the audience predetermined at the outset of the project.

In the development of this curriculum, each year of the three year program will have specific goals and objectives which will accommodate the general district objectives: to improve research skills, communication skills, and those skills requiring higher levels of thinking.

VI. COURSE OUTLINE 1980-81 - HUMANITIES

The following is a streamlined description of the interdisciplinary course based upon the concept "What is Man." In this course, this theme is examined in philosophical, historical, scientific, and creative terms through a variety of cultures and historical periods. The syllabus for the course is divided into nine units as follows:

1. Introduction: Why Man Creates
2. Prehistoric Man
3. Egyptian Culture
4. Eastern Culture
5. Hebraic Culture
6. Greek Civilization
7. Roman Civilization
8. Middle Ages
9. The Renaissance

Each of these units is accompanied by a variety of reading selections and suggested activities in each of the following areas: philosophy, science, literature, mathematics, art, and music. (Source: Man's Search for Persoal Freedom, W. C. Brown Publishers, Vol. I & II.)

I. Introduction:

The humanities consist of man's best creative responses to basic, universal questions about who he is and what he means.

This introductory unit will help students begin to focus upon both the creative process per se and the kinds of products to which it leads. Students will begin to consider the ways their own creative processes work. They will also have opportunities to begin to focus upon the development of a long-term project which will encourage them to exercise creativity.

A. Areas of Study and Reading Selections

1. Psychological

Skinner, B. F., Walden Two pp. 104-115.

Le Shan, Lawrence, Alternate Realities, "Incomplete Maps and Human Freedom," pp. 232-44.

Evans, Richard I., Carl Rogers, The Man and His Ideas, "Some Issues Concerning the Control of Human Behavior: A Symposium," pp. xiiv - ixxxviii.

Bateson, Gregory, Steps to an Ecology of the Mind, "Metalogue: What Is An Instinct," pp. 38-58.

A. Areas of Study and Reading Selections (continued)

2. Philosophical

Durant, Will, The Story of Philosophy, introduction and preface.

Russell, B., A History of Western Philosophy, introduction and preface.

Mumford, Lewis, The Condition of Man, Chapter 1.

Aristotle, Selections, #19.

Brutt, E.A., The English Philosophers, ix-xii.

3. Historical

Rodnick, David, The Beginnings of Man, Chapter 1.

Smith, Goldwin, The Ascent of Man.

Heillroner, Robert, The Human Prospect, Chapter 1.

4. Physical

Harrison and Montagna, Man "Reflections on His Nature," pp. 357-366.

Eckstein, G., The Body Has A Head, "The Head-The Rest Exists for This," pp. 559-785.

Bronowski, J., The Ascent of Man, "Lower Than Angels," pp. 77-90.

5. Creative Expressions

a. Literature

Emerson, Nature
Arnold, M. The Buried Life
Selections from Germinol, Emile Zola, Chapter 1-3
Selections from the Bible

b. Mathematics

Strieck, A Concise History of Math, p. 1.

Boyer, A History of Mathematics, p. 1

Cajori, A History of Mathematics, pp. 258-286

Whitehead, World of Mathematics (vol. 1), p. 402

B. Suggested Activities

1. Philosophical

a. Find all the definitions you can of the word "philosophy" and/or "philosopher" from the above readings and any other resources available to you. From these choose a favorite or write your own definition and justify your choice.

b. Write a short essay about if and how the assigned readings have contributed to your understanding of the nature of man.

2. Historical

a. According to the readings, how are man's "survival traits" representative of his creative expressions?

b. Critique Heillroner's "The Human Prospect." Do you agree with his prospect? Why or why not?

B. Suggested Activities (continued)

3. Physical

a. Trace the origins of the Agricultural Revolution.

b. How have science and medicine evolved in practice from man's early period to today's modern methods?

c. Select a research topic in science and using the scientific method develop a project in the field of your choice.

4. Man's Creative Expressions

a. Literature

1) From your reading of Zola and Emerson, determine what each writer's answer to the "What is man?" question might be. Develop a composite of Zola's man, of Emerson's.

2) Emerson and Zola meet to debate the question of nature's influence on man. Write a brief dialogue reflecting each writer's ideas. Show how each writer's concept of man influences his opinion.

3) Reduce Matthew Arnold's "The Buried Life" to a prose statement. What is man's dilemma as Arnold sees it?

4) What basic difference seems to exist between the Old Testament and the New Testament view of man? Which seems closer to Emerson's view? To Zola's? Write a brief essay summarizing these relationships.

5) Which writer's view of man seems most contemporary? What characteristics are revealed by that view which seem to parallel modern man? Describe a contemporary figure who seems to fit this picture of man.

b. Mathematics

1) Find as many other descriptions as you can of what mathematics is. Compare, contrast, pick your favorite; justify your choice.

2) We have included mathematics as a "creative expression" of man. Do you agree with this inclusion? Justify your opinion and include what ideas you glean about the nature of man from this expression.

II. PREHISTORIC MAN

Introduction:

"And neolithic man was counting and falling under the spell of number."
- H.G. Wells

What do we know about prehistoric man which enables us to conjecture that he was counting, that he was measuring time, that he was beginning to think? This unit will introduce a classical-historical approach to the study of man by providing an overview of what may have been prehistoric man's earliest creative impulses.

A. Areas of Study and Reading Selections

1. Philosophical

Wells, H.G., The Outline of History, pp. 89-127

2. Mathematics

World of Math: Counting, pp. 432-441

Boyer, Primitive Origins, pp. 1-24

Strunk, The Beginnings, pp. 7-15

H. G. Wells, Outline of History, pp. 121-127

Mathematics for the Millions, pp. 40-52

B. Suggested Activities

1. Philosophical

a. If early man had had written language, do you believe there would have been some indication that he philosophized? Justify your answer.

b. Write an essay or poem about the meaning of the "Old Man of Religion" which H. G. Wells describes. Does such an image have meaning in today's world?

2. Mathematics

a. Describe the type of evidence on which an account of prehistoric mathematics is based, citing some specific instances.

b. Which do you think prehistoric man was most likely to notice and count as a time division, the year, month, week, day, or hour? Explain.

c. Write a poem about counting.

d. If you were lost in a cave describe methods by which you could reckon time and distance.

3. Physical

a. How have science and medicine evolved in practice from man's early period to today's modern methods?

b. Select a research topic in science and, using the scientific method, develop a project in the field of your choice.

III. EGYPTIAN CULTURE

Introduction:

Our fascination with the ancient Egyptians' concern with death and the afterlife has been reinforced by recent publicity about the treasures of Tutankhamen. This unit will examine certain aspects of Egyptian culture to help us understand the somewhat unusual relationship between their creative impulses and preoccupation with eternal life.

A. Areas of Study and Reading Selections

1. Philosophical

Wells, H. G., pp. 198-213

2. Historical

"An Egyptian Vizier Instructs His Son"

"Akhnaton Worships One God"

"A Manual for the Dead"

in The Human Adventure: Reading in World History, eds. Eisen and Filler, pp. 11-15

3. Physical

Desroches - Noblecourt, Tutankhamen

Gluck, Discovering Tutankhamen's Tomb

4. Literature

"The Story of Ra and Isis"

George Bernard Shaw, Caesar and Cleopatra

William Shakespeare, Antony and Cleopatra

5. Mathematics

Lost Discoveries, Colin Roman pp. 26-37

World of Math: The Rhind Papyrus pp. 170-178

Boyer, pp. 9-24

Struik, pp. 20-25

Cajori, pp. 9-14

B. Suggested Activities

1. Philosophical

a. The beginnings of civilization and the appearance of temples are simultaneous in history (H.G. Wells). Write a poem or essay which speculates about the reasons for this statement.

b. Find some other sources which describe the religious ideas of ancient Egypt. Prepare an oral report.

2. Physical

   a. Construct models of pyramids, sphinx, mummy case, tombs.

   b. Report on the origins of Egyptian science, mathematics, astronomy and calendar, anatomy and physiology, medicine, and surgery.

3. Literature

   a. Write a brief description recreating the storyteller of the Ra and Isis tale. Select details from the story to substantiate your ideas about his concept of the gods and man's ability to strive for a goal.

   b. Develop a paradigmatic explanation of the allegory in "The Story of Ra and Isis."

   c. Bernard Shaw is noted for his piercing wit. Choose a portion of Caesar and Cleopatra which illustrates that Shavian quality and prepare it for oral presentation as reading theater.

   d. Research the historical Cleopatra and compare/contrast her with Shakespeare's Cleopatra and Shaw's Cleopatra. How does each playwright's Cleopatra suit his purpose? Prepare a short talk (five to seven minutes) highlighting the real queen and each playwright's representation of her.

   e. What is Shakespeare's conception of the outstanding characteristics of the Egyptians? Of the Romans? Choose the most outstanding differences and list them using appropriate references to the play for substantiation.

   f. Using Enobarbus' graphic description of Cleopatra's "barge" (II, ii, 237-266), draw the picture he describes.

4. Mathematics

   a. Make a study of ancient means of time-reckoning. Prepare an oral report.

   b. Solve the following problem from the Ahmes Papyrus (Problem 40). Divide 100 loves among 5 men so that the shares are in an arithmetic progression.

   c. Solve in the Egyptian manner $x^2 + y^2 = 100$, $y = 3x/4$ (taken from a Berlin papyrus).

   d. Using the Egyptian method of division, solve the following problem (from the Ahmes Papyrus): A quantity and its two thirds and its half and its one seventh together 33. Find the quantity.

5. Art

   a. Construct a mural, emulating Egyptian artistic modes, depicting daily life in ancient Egypt.

IV. EASTERN CULTURE

Introduction:

The culture and creativity of the East is understood only vaguely by far too many of us in the Western world. This brief unit will provide an outline of Eastern man's creative contributions to the foundations of the humanities, particularly in the areas of legal codes and the development of early cities.

A. Areas of Study and Reading Selections

1. Philosophy

Wells, H.G., pp. 373-395

The World's Great Religions, pp. 37-76

2. Literature

The Bhagavad Gita, Chapters 13-18

"The Eternal Questions" from The Ramayana

Paul Roche, "A Meeting with Gandhi"

"Urashima Taro"

"The Story of the Stone Lion"

3. Mathematics

Cajori, pp. 71-82

Streick, pp. 17-20

Boyer, pp. 217-249

B. Suggested Activities

1. Philosophical

a. The sources suggested are very badly written; find another one or several more complete resources for studying oriental religions.

b. Prepare an oral report describing the themes of these religions that are like our more familiar religions.

2. Literature

a. Using Chapters 13-18 of the Bhagavad Gita as your source, derive the Krishna attitude toward man's capabilities for self-improvement and what this self-improvement constitutes. Write a short essay setting forth your conclusions; support your ideas with specific references to the text.

b. Read the prologue and the first two chapters of The Ramayana. Prepare for a small group discussion about the ways in which the stories of Rama consitute a "perennial philosophy."

c. "Urashima Taro" and "The Story of the Stone Lion" are both Eastern folk tales which reveal, among other things, timeless truths about how man influences his destiny for good or ill by his behavior. Write a modern folk tale to illustrate one of the moral principles developed in these folk tales.

d. Briefly research the life, activities, and impact of Mohandas Gandhi. What would be his answer to the "what is man" question? If the Bhagavad Gita illustrates certain essentially Eastern ethical principles, how are they illustrated through Gandhi and his ideas? Prepare a ten minute lecture focusing on these questions.

3. Mathematics

a. (see pp. 248 Boyer) # 8, 9, 10, 12, 16, 20, 19.
Write the number 7, 834, 679 in Chinese rod numerals.

b. Using the method of Ci' in Chiu Shao find the $\sqrt{29,584}$.

c. Solve Bhaskara's broken bamboo problem.

4. Physical

a. Compare the Babylonian and present day calendars.

b. Research Babylonian sciences of Astronomy, Geography, and Medicine.

V. HEBRAIC CULTURE

Introduction:

Man's creativity and involvement in the humanities is affected by his conception of his relationship with his God. In this unit we shall examine the novel idea of monotheism as it is revealed in certain well-known passages from the Old Testament.

A. Areas of Study and Reading Selections

1. Philosophical

Wells, H.G., pp. 262-265, 591-593

The World's Great Religions, pp. 79-119

2. Historical

"The Hebrews Hear the Word of God"

"Isaiah Counsels the Hebrews," pp. 26-31 in The Human Adventure

3. Literature

Selected Readings (N.B., Students will supply their own texts for Bible selections. The page references following each selection refer to Whitney and Howe, Religious Literature of the West which also contains the Qur'an texts.)

Genesis, Chapters 1-3, pp. 63-66

Genesis, Chapter 25, verses 19-34

Genesis, Chapter 27, verses 41-46, pp. 80-82

Hosea, Chapters 1-4, pp. 103-106

Surah (Qur'an), Chapter 3, verses 35-65, pp. 270-273

Surah, Chapter 7, verses 42-53

Surah, Chapter 14, verses 48-50

Surah, Chapter 33, verses 28-36

Surah, Chapter 4, verses 36-38, pp. 282-285

B. Suggested Activities

1. Philosophy

a. Find other resources for further study of the topic.

2. Literature

a. Which of the two creation stories tells more about human nature? What does it reveal? According to the framer(s) of the Old Testament, "What is Man?" Write a short essay supporting your thesis with specific details.

b. Imagine the dialogue which might have taken place between Adam and Eve as they left the Garden of Eden. Write this dialogue; be sure to illustrate through their words what their conception of self and God must have been.

c. Prepare to discuss the timeless aspects of the human condition present in the story of Jacob and Esau.

d. Analyze the metaphoric significance of the marriage between Hosea and Gomer. Write a short analysis comparing the effectiveness of that metaphor for Hosea's "audience" with its effectiveness for Twentieth Century man.

e. Based upon your knowledge of the New Testament, decide whether the tone of the selections from the Islamic Qur'an renders them more compatible with the Old or New Testament. Defend your choice with appropriate textual allusions. Prepare an oral presentation of your conclusions.

f. Consider the Bhagavad Gita, the Bible, and the Qur'an. What essential similarities about man's relationship to the deity can you derive? List them in preparation for discussion.

VI. GREEK CIVILIZATION

Introduction:

"Men live not by virtue of their humanity but by virtue of something in them that is divine."

The Greeks celebrated the ideal of personal freedom, exercising their creativity to determine what constituted a good man, a good institution, or a good state. Hellenism, along with Hebraism, has had a lasting influence upon Western society, and the material in this unit will help us understand why.

A. Areas of Study and Reading Selections

1. Philosophical

Russell, B., A History of Western Philosophy, pp. 11-24

Wells, H.G., pp. 317-333

Selections from Aristotle

Selections from Plato

Durant, Will, The Story of Philosophy

2. Physical

Hippocrates, On the Nature of Man

Selected readings frodm The New Treasury of Science

3. Literature

Matthew Arnold, "Hebraism and Hellenism"

Edith Hamilton, "Witness to the Truth: Socrates"

Alfred, Lord Tennyson, "Ulysses"

Euripides, "Medea"

4. Mathematics

Euclid's Elements

The World of Math, Vol. 1

Delacy, Estelle A., Euclid and Geometry

Streick, pp. 37-64

Boyer, pp. 69-90; 91-98

B. Suggested Activities

1. Philosophical

a. Read the Will Durant selections and write a major report about Greek philosophy.

b. Study the titles of Aristotle's selections, pick three, read these and prepare an oral report describing what they tell you about the nature of man in early Greece.

2. Physical

   a. Explain Euclid's proof of the Pythagorean Theorem.

   b. Compare the oath of Hippocrates with modern medical practices.

3. Literature

   a. Protagoras said, "Man is the measure of all things." Edith Hamilton quotes Plato in reference to Socrates: "Men live [life] not by virtue of their humanity, but by virtue of something in them that is divine." Research such major Greek figures as Socrates, Sophocles, and Protagoras to discover their conception of the relationship between man and his god(s). Write a brief paper projecting the possible effects of such ideas upon Green life.

   b. What conclusions does Matthew Arnold reach concerning the aims of and the relationship between Hebraism and Hellenism? Arnold sees these "spiritual disciplines" from the vantage point of the 1860's. What would your conclusions be about the influences of Hebraism and Hellenism on Western society since that time? Would your conclusion be similar to Arnold's? Write an essay bringing "Hebraism and Hellenism" up to date.

   c. Read the story of Medea and Jason and the Golden Fleece in Bulfinch's The Age of Fable, then consider how Euripides uses that story as the basis for "Medea." Prepare a short oral presentation dealing with Euripides' opinion of man and his relationship with the gods.

   d. Prepare the last part of "Medea" (from the point at which Jason enters to demand vengeance) for oral interpretation as reading theater.

   e. Present an oral interpretation of Tennyson's "Ulysses." Explain to your audience what qualities of the aged hero Tennyson celebrates.

   f. Prepare to discuss the ways in which the "ideal" Greek man compares with the other versions we have examined.

4. Mathematics

   a. The Greeks were very emotional about mathematics. They described numbers as irrational, prime, perfect, male, female, harmonic. Write a poem about emotional numbers - you might include "improper" fractions and "transcendental" members.

   b. Boyer #6 Euclidean algorithm
      #11 Perfect numbers
      #12 Construct tangent from outside point
      #20 Construction great

5. Art

   a. Prepare an audiovisual presentation upon the Green concept of beauty. How does the concept contrast to ideas today?

   b. Prepare a slide presentation of homes, building, and institutions in and around Philadelphia which reflect Greek influences architecturally and artistically.

GF D-7, A-16, 17

VII. ROMAN CIVILIZATION

Introduction:

The ancient Greeks and Romans have passed down a rich heritage in the humanities. This unit will focus specifically upon the Romans' contributions, particularly in terms of their emphasis upon law, justice, and devotion to duty. Readings and activities will provide an overview of these key aspects of ancient Roman civilization.

A. Areas of Study and Reading Selections

1. Philosophy

Wells, H.G., Outline of History, pp. 409-414

The Condition of Man, pp. 37-48

2. Physical

Durant, Will, Caesar and Christ, selected readings.

3. Literature

William Shakespeare, Coriolanus

Ovid, Metamorphosis

William Shakespeare, Mark Antony's funeral oration

Bernard Shaw, Androcles and the Lion

5. Mathematics

Boyer, pp. 146

Cajari, pp. 63-68

Wells, H.G., pp. 467-483

B. Suggested Activities

1. Philosophy

a. The cultural contributions of early Rome are many but there is no body of literature called "Roman philosophy." After reading the above selections write a paper conjecturing on why this might be so.

2. Physical

a. Compile a list of Roman medicines; compare to modern drugs.

b. Compile a list of scientific names of plants and animals. Show Latin and Greek prefixes and suffixes; interpret literal meanings.

c. Construct models of an aqueduct, Roman road, arch, chariot.

3. Literature

a. Which of man's universal flaws destroys Coriolanus? Consider the "Roman" qualities you observed in Antony and Cleopatra. Is Coriolanus' failing a facet of these qualities? Write an essay explaining how Coriolanus' contempt for civil authority leads to his downfall.

b. Select two Twentieth Century political figures who might represent Coriolanus and Aufidius. Prepare a brief presentation showing how one, like Coriolanus, is blinded by pride; how the other, like Aufidius, is a realist.

c. Select a scene which is particularly demonstrative of Coriolanus' character (e.g., II, iii) and prepare it for oral interpretation as reading theater.

d. What does Ovid tell us about early Roman history? Why is the story of Pomona and Vertumnus included here? What view of man did the creator of these legends possess? Write a short essay addressing these questions.

e. Research the historical relationship between Julius Caesar and Mark Antony. Prepare an oral presentation of Mark Antony's funeral oration followed by an explanation of how Antony's speech relates to its historical and political context.

f. Using "Androcles and the Lion" as your source, write an essay explaining the implications of Shaw's opinion that "the more ignorant men are, the more convinced they are that their little parish and their little chapel is an apex to which civilization and philosophy has painfully struggled up the pyramid of time from the desert of savagery." Is Shaw's theory timeless and universal?

4. Mathematics

a. Roman culture is notable for its lack of contribution in the development of mathematics, after reading the above sources, write an essay speculative on why this might be so.

5. Creative Expressions

a. Miniresearch paper: Some aspects of daily life in Rome. A follow-up activity includes either a skit, a type of "You are There" radio or TV script, or an interview with a famous Roman.

b. Review Roman sculpture, mosaics and art.

VIII. THE MIDDLE AGES

Introduction:

During the medieval period the creative impulse remained strong although there was a subtle shift in emphasis away from the Greco-Roman celebration of man's capabilities in this world to a concern with his preparation for the next world. The content of this unit will help to illustrate this other worldliness and place it in the context of our examination of man's creativity and the humanities.

A. Areas of Study and Reading Selection

1. Philosophy

Wells, H.G., pp. 508-518, 532-545

Criticism of Man, pp. 108-151

The Making of the Modern Mind, pp. 59-80

Durant, Will, pp. 75-82

Russell, B., pp. 301-306

2. Literature

"The Song of Roland"

"The Nibelungenlied"

"Tristram and Ysolt"

Dante Alighieri, from The Divine Comedy

3. Mathematics

Boyer, pp. 272-294

Strieck, pp. 69-80

Cajori, Ther Arabs, pp. 99-112

H.G. Wells, pp. 607-610

Boyer, pp. 264-269

B. Suggested Activities

1. Philosophy

a. Write an essay which discusses the nature of man in the middle ages. Consider: a) What are the positive and negative aspects of having lived there? b) Why are modern perspectives of philosophy so negative in their evaluation of the middle ages? c) Man's view of himself as he might have seen it actually living in the middle ages.

2. Physical

a. Read of the Philosophy of St. Francis of Assisi and his love of nature, especially animals. How is such a philosophy applicable today?

b. Enact the heresy trials of Galileo.

c. Write an account of the crusades and plot the results on relief maps.

d. Compare Islamic Hebrew, and Christian scientific contributions of the Medieval period.

e. Prepare models or drawings of weapons, armor, fortifications of the Medieval period.

f. Why was there so little scientific progress in Medieval times?

3. Literature

a. Evaluate Roland's character to determine his most outstanding trait. Did this characteristic lead to his downfall? Write an essay illustrating your ideas with specific details.

b. Try to emulate the poetic diction of the Roland epic and write a parody thereof using Twentieth Century "heroes."

c. What do we learn about the early Germanic code of ethics from the "Nibelungenlied"? Prepare for a discussion of that topic with specific illustrations from the text.

d. Prepare a short oral presentation on the significance of the female characters in the "Nibelungenlied" and "Tristram and Ysolt." Try to determine what these legends reveal about the place of women in that period and compare that concept with current attitudes.

e. Examine Gustave Dore's illustrations of Dante's description of hell. Select several of the more ghastly examples and prepare a slide presentation which you will narrate with appropriate passages from the text.

f. Write an essay (or prepare for a discussion) dealing with the concept of "other worldliness" as revealed in Medieval literature. Use this concept to develop a Medieval generalization answering the question, "What is man?"

4. Mathematics

a. Find all the sources for knowledge of the "Febonnacci numbers." Prepare an oral report with illustration.

b. Solve the equation $X^3 = x^2 + 20$ in the manner of Omar Khayam.

c. Nasir Eddin showed that the sum of 2 odd squares cannot be a square. Prove this theorem.

d. Use the computer to verify to the nearest hundreth a root of Fibonnaci's cubic $x^3 + 2x^2 + 10x = 20$.

e. Write the number 980,765 in the notation of Planudes.

5. Art and Music

a. Make a collection of early Christian hymns dating from "Lux Beater." Prepare a tape illustrating:

1) Plainsongs
2) Gregorian chants
3) Ambrosian chants

IX. THE RENAISSANCE

Introduction:

During the Renaissance we observed another shift, this time involving a reemphasis upon the classical humanism of Greece and Rome; however, this revival is inevitably influenced by the development of the intervening centuries. Creativity flourishes as Renaissance man exercises his humanistic-artistic capabilities, and this unit will deal with some of the products of this unusually prolific period.

A. Areas of Study and Reading Selections

1. Philosophy

H.G. Wells, pp. 736-740

English Philosophers - actually read Bacon pp. 28-35

B. Russell, pp. 525-554

Will Durant, pp. 173-178

Making of the Modern Mind, pp. 524-549

2. Literature

Francesco Petrarch, a sonnet sequence

Niccolo Machiavelli, from The Prince

Miguel de Cervantes, from Don Quixote

William Shakespeare, "The Seven Ages of Man" from As You Like It

3. Mathematics

Projective Geometry, pp. 622-642

Life: Mathematics - The Italians

A History of Western Philosophy, B. Russell, pp. 536-540

Cajori, pp. 130-145

The Making of the Modern Mind, pp. 226-242, Randale

Boyer: Descartes

The Time of Fermat and Descartes, paragraph #3, 4, 21, 23, 24, 25

B. Suggested Activities

1. Philosophy

a. Among the statements of Sir Francis Bacon, pick one which has meaning pertaining to your personal philosophy; justify.

b. Why is Candide, a work which is described as perhaps the finest short story in all literature, included as a work of philosophy.

c. Read all of Candide. Extrapolate Voltaire's philosophy and discuss the value of literary form for the presentation of philosophy.

2. Physical

a. Make an oral presentation on the characteristics of the "Renaissance Man." For background consider:

1) Lorenzo de Medici
2) Copernicus
3) Erasmus
4) Francis Bacon
5) Sir Thomas Moore
6) Leonardo daVinci
7) Galileo Galilei

b. Write a skit for the following episode: William Harvey discovering the circulation of blood.

c. Read about some of the early scientific research of mankind; select an experiment and try to repeat it. (Galileo, Copernicus, Galen, Aristotle, Archimedes).

3. Literature

a. Write an explication of the brief Petrarchan sonnet sequence in your text. Describe the human concerns, joys, and failings illustrated in these sonnets.

b. What is Machiavelli's opinion of the mass of men? Using the selections from The Prince as your source, prepare a short oral presentation illustrating his viewpoint.

c. Design a comic strip based upon the exploits of Don Quixote as revealed in one of the tales.

d. Present an oral interpretation of Shakespeare's "The Seven Ages of Man." Follow up by leading a discussion centering upon its applicability. Is the concept universally true today?

e. Do you detect a shifting attitude toward man from the Middle Ages to the Renaissance? Choose several of the reading selections as sources and write a brief essay explaining what you believe this shift to be.

4. Mathematics

a. Use the computer, write a program to find which of the primes between 10 and 30 can be written as the sum of 2 squares by finding the squares.

b. Investigate Pascal's triangle and its uses in probability and statistics. Prepare an oral report with illustrations.

c. Write a computer program that will generate Pascal's triangle.

d. Have your program use the format of the traditional triangular shape of Pascal's numbers.

HUMANITIES COURSE

THEME PLAN

I. INTRODUCTION

Philosophy: The student will obtain an overview of the course goals, the philosophical mood of the course, knowledge of particular skills required, and an introduction to the members of the course. An emphasis will be placed on creativity.

General Goals: Students will experience creativeness in others and themselves at intellectual and affective levels as they prepare for a study through various cultural periods of man's need and methods of interpreting his world. They will also develop specific skills in critique writing and use of the I.M.C. resources.

Justification:

1, 10b and 10c

The justification for each theme plan is coded according to "A" Needs Assessment for Gifted Education," p. 57

Outline of content/suggested strategies:

I.

Introduction
- A. Why Man creates?
- B. What it Means to be Human?
- C. Creativity
- D. The Humanities

Introductions, panel discussions, a film, a slide presentation, I.M.C. orientation; critique skills description; selected readings, small seminar discussions and small group artistic expressions in various media will prepare the group for the creative, intellectual, and interdiscipline experience upon which it is embarking.

Materials:

Readings: Picasso, Zola, Emerson and Stravinsky;
Slide Program: Humanities - An Approach to Living in the Modern World
Film: Why Man Creates
Slide program: What It Means To Be Human

Evaluation:

Observation
Contributions to Discussions 3.1
Written evaluation 1.2, 2.1
Presentations 3.1

Skills developed:

Knowledge of library resources 1.2, 1.3
Specifics of critique writing 1.2
Creative Thinking 2.1
Critical Thinking 1.2, 2.1
Communication 3.1

(N.B. Methods of evaluation and skills developed are coded in terms of the three major goals of this course outlined on page 4).

HUMANITIES COURSE

THEME PLAN

II. EARLY MAN
III. EGYPTIAN CULTURE

Philosophy: Man's creative urge as developed through the study of Early Man and Egyptian Culture.

General Goals: Students will aquire knowledge of man and his world in prehistoric times; will speculate on interpretations of examples of cave paintings; will study the Egyptian expressions of existence and death; will develop discussion skills and art appreciation.	Justification: 4, 5, 6, 10a

Outline of content/suggested strategies:

II. Prehistoric Man
  A. Early man's creative impulses
  B. Philosophies
  C. Mathematics
III. Egyptian Culture
  A. Creative impulses
  B. Philosophy
  C. Eternal Life

Students will read required materials; interpret meaning meaning of examples of cave art; view a slide presentation; go on a field trip to the University of Pennsylvania Museum; participate in a panel discussion of pertinent experiences; discuss the techniques of discussion and use of a time line; evaluate examples of famous art, present a dramatic interpretation.

Materials:	Evaluation:	Skills developed:
Readings: Early Man, H. G. Wells, p. 89-127, 198-213. Cave Art, various books to use with the opaque projector. An Egyptian Vizier Instructs His Son; Discovering Tutankhamen's Tomb, Gluck Anthony and Cleopatra, Shakespeare	Log Reflections 2.1, 2.2, 2.3 Discussion 3.1, 3.2 Observation Panel Presentation 3.1 Written Evaluation 2.1, 2.2, 2.3	Art appreciation: Discussion techniques 3.1 Critical thinking 2.1, 2.2, 2.3 Decision making 3.2 Leadership

GF D-7, A-29,30

HUMANITIES COURSE

THEME PLAN

IV. EASTERN CULTURE
V. HEBRAIC CULTURE

Philosophy: The culture and creativity of the East is too little known in the Western world. This unit will briefly provide enlightenment about the threads linking these cultures to our own.

General Goals: Students will aquire knowledge of the early development of sophisticated cultural expressions and ethics by the Eastern and Hebraic groups. They will also project the significance of these developments into future cultures, including our own. The importance of religious expression will be integrated into the general philosophy of the course.

Justification:

1, 3, 5, 6, 9, 10b , and 10d

Outline of content/suggested strategies:

IV. Eastern and V. Hebraic Cultures
- A. Introduction to Eastern history and literature
- B. Ancient Mesopotamia
- C. Hebraic culture
- D. Contributions of the Old Testament

Students will attend lectures, view a film, attend small discussion groups, read required materials, and propose their own evaluation procedure of this unit which will deal with the manifestations of man's struggle to define law, duty, and purpose in life.

The development of art, mathematics, literature, and architecture of these cultures will also be considered with the strategies described previously.[5]

Materials:

Readings: Selections from Outline of History, H. G. Wells; The Old Testament and Hammurabi's Code
Film: Ancient Mesopotamia

Evaluation:

Student proposed evaluation. 2.1, 2.2, 2.3

Observation
Disucssion > 3.1, 3.2, 3.3

Skills developed:

Critical thinking 2.1
Research 1.1, 1.2, 1.3
Problem Solving 2.1, 2.2, 2.3
Decision Making 3.1, 3.2, 3.3

GF D-7, B-1, 2

HUMANITIES COURSE

THEME PLAN

VI. GREEK CULTURE

Philosophy: Students will acquire knowledge of the important contributions of the Hellenic culture and its continued effect, through the ages, upon Western intellectual development.

General Goals: Students will acquire knowledge of abstract ideas about philosophy; the effects of rational, scientific thinking in the ancient world; the conflict of older religious ideas with man's belief in his own perfectibility; and the enduring effects of the Greek contributions in various fields.	Justification: 1, 2, 4, 6, 7, 10a, 10c

Outline of content/suggested strategies:

VI. Greek Culture
- A. Greek philosophy
- B. Aristotle and the Scientific Method
- C. Greek Olympics
- D. Greek Math and Literature
- E. Greek History and Science
- F. "Hebraism and Hellenism"
- G. Greek Concept of Art
- H. Math, Music, and the Greeks

Students will attend lectures, read assigned materials, view appropriate audiovisual material, participate in discussion of pertinent experiences and write definitive, descriptive essays as assigned.

Materials:	Evaluation:	Skills developed:
Readings: Selections from Plato, Aristotle, Euclid, Arnold's Hebraism and Hellenism, Toynbee's Hellenism Art Slides: Early Greece, Preparation for the Good Life.	2.1 Student presentations 2.2 Seminar evaluation 2.3 Observation 3.1 Discussion	Critical thinking 2.1 Creative thinking 2.2, 2.3 Research 1.1, 1.2, 1.3 Problem solving 2.3 Communication 3.1

GF D-7, B-3, 4

HUMANITIES COURSE

THEME PLAN

VII. ROMAN CULTURE

Philosophy: Students will develop knowledge of the factors which form the characteristics of a particular culture and evaluate these characteristics.

General Goals:	Justification:
Students will study philosophical comparisons of the Greek and Roman cultures by experts in the fields. Further, they will compare and contrast the Greek and Roman cultural contributions, synthesizing causal factors for the differences.	1, 2, 3, 4, 6, 10a, 10b, 10c

Outline of content/suggested strategies:

VII. Roman Culture
- A. Introduction to Roman Culture
- B. Roman Themes in Drama
- C. Roman Art and Music
- D. Roman Fun and Games
- E. Contributions of Roman Science
- F. Latin and Literature
- G. The Fall of Rome
- H. Reflections on Rome

Students will attend lectures, read assigned materials, view appropriate audiovisual materials, present a student-designed program, participate in discussion of all pertinent experiences, participate in a "Roman Forum" and present in a group of oral method, their evaluation of the material studied.

Materials:	Evaluation:	Skills developed:
Readings: Sword and Spirit, Rome: The Failure of Pro-professionalism, Fun and Games, Teachings of Jesus of Nazareth, The Roman Way	Oral group presentation of evaluation questions. 2.2, 2.3	Comparison skills 2.2, 2.3 Evaluation skills 2.3 Analyzing skills 2.3

GF D-7, B-5, 6

HUMANITIES COURSE

THEME PLAN

VIII. MIDDLE AGES

Philosophy: Students will develop knowledge of the varied historical evaluation of the Middle Ages through a study of several by experts in this field and also through a study of the creative products of this period.

General Goals:	Justification:
Students will study the abstract concept of the evaluation of a historical period and why such an evaluation is not definitive. Further, through study of the intellectual and artistic products of the period, they will form their own evaluations.	1, 2, 3, 4, 5, 6, 10a, 10b, 10c

Outline of content/suggested strategies:

VIII. Midle Ages
- A. Introduction to the Middle Ages
- B. Literature of the Middle Ages
- C. Math and Science of the Middle Ages
- D. History of the Middle Ages
- E. Mathematics of the Middle Ages
- F. Music of the Middle Ages

Students will attend lectures, read assigned materials, view appropriate audiovisual materials, present student prepared programs, participate in discussion of all pertinent experiences, go on a field trip to the Cloisters and the Metropolitan Museum, and write critical imaginative essays as assigned.

Materials:	Evaluation:		Skills developed:	
Readings: Ideas and Men, The Reev's Tale, Mathematics and Science of the Middle Ages, Gothic Art and Architecture.	Written evaluation	2.1	Critical thinking and evaluation	2.1
Medieval Music: Sacred and Secular	Observation	2.2	Creative thinking	2.2
Film: A Wanderer's Guide To Art and Letters	Discussion	2.3		2.3

GF D-7, B-7, 8

HUMANITIES COURSE

THEME PLAN

IX. RENAISSANCE

Philosophy: Students will develop knowledge of the creative and intellectual expressions of the Renaissance period. Further, they will consider the unifying principles which fostered the products of this prolific period.

General Goals: Students will study the abstract concepts of the factors which generated the major contributions in the fields of art, literature, science, mathematics, politics, and philosophy during the Renaissance. Further, they will extrapolate the unifying concepts which fostered these creative expressions as they work with samples of content in each field.

Justification: 1, 2, 4, 5, 6, 10a, 10b, 10d

Outline of content/suggested strategies:

IX. Renaissance
- A. History and Politics
- B. Renaissance Literature
- C. Science of the Renaissance
- D. Art of the Renaissance
- E. Music of the Renaissance
- F. Mathematics of the Renaissance

Students will attend lectures, read assigned materials, view appropriate audiovisual materials, present student prepared programs, participate in discussions of all pertinent experiences and write evaluative, synthetic essays as assigned.

Materials:

Readings: selections from Machiavelli, Making of the Modern Mind, An Artist of the Renaissance, Two Aspects of Petrarch, Leonardo the Scientist, The Ascent of Man
Computer printout of art slides.

Evaluation:

Class evaluation orally 3.1
Discussion 1.1, 1.2, 1.3
Written evaluation 2.1, 2.2,
Student presentations 3.1, 3.2, 3.3

Skills developed:

Critical thinking 1.1, 1.2, 1.3
Creative thinking 2.1, 2.2, 2.3
Research 1.1, 1.2, 1.3
Leadership
Communication 3.1, 3.2, 3.3

GF D-7, B-9, 10

VII. COURSE OUTLINE; 1980-1981 - FUTURISTICS

The second year of this curriculum design is centered around the theme of futuristics and the concept of man's future endeavors. This interdisciplinary course is organized around the following rationale. (Source: The Study of the Future, World World Future Society.)

1. Provide gifted students with the futuristic concepts and processes of inquiry.

2. Provide gifted students with opportunities to integrate futures concepts with the past, particularly the cultures studied under the humanities component.

3. Provide gifted students an opportunity to develop skills and abilities for dealing with societal complexity.

4. Provide gifted students an opportunity to analyze and explore solutions to major issues of today - nuclear proliferation, pollution, global scarcities - through intellectual problem solving.

5. Provide gifted students an opportunity to participate in activities designed to promote alternative societal trends aimed at more desirable futures.

6. Emphasize learning strategies which develop creative and imaginative thought processes: problem-solving skills, and inquiry skills.

The syllabus for the course will be divided into units as follows:

I. Possible futures - assumptions about time

   A. Historical approaches - comparative studies
      1. History
      2. Anthropology
      3. Human geography

   B. Artistic Approaches - scenarios
      1. Simulations
      2. Case studies
      3. Gaming

II. Preferable futures - assumptions about perceptions

   A. Artistic approaches - insight
      1. Science fiction
      2. Utopian writing
      3. Dystopian writing

   B. Philosophical approaches - image building
      1. Sacred writings
      2. Ethics
      3. Consciousness

III. Plausible futures - assumptions about hope

A. Philosophical approaches - systems building

1. Systems theory
2. Systematic philosophy
3. Ecology

B. Scientific approaches - policy and planning

1. Economics
2. Policy studies
3. Management sciences

IV. Probable Futures - assumptions about time

A. Scientific Approaches - forecasting

1. Probability theory
2. Delphi technique
3. Extrapolation

B. Historical Approaches - trend analysis

1. History
2. Sociology
3. Causality

7. Implementation:

Each of the thematic plans for the futuristics course contain the many ways of interaction between student and teacher. Teaching strategies and learning activities can be found within each theme plan.

Innovative methods for implementing the futures theme will include:

A. Using the methodologies of futurists

1. Predicting and forecasting
2. Exploratory and normative forecasting

B. Using techniques for forecasting the future

1. Trend extrapolation forecasting
2. Cross-impact matrix
3. Delphi forecasting
4. A futures wheel
5. The Scenario
6. The Relevance Tree
7. Simulation forecasting

C. Brainstorming and Creativity

THEME PLANS FOR FUTURISTICS COURSE

The goals and objectives of the futuristics course address themselves to the guidelines which were previously identified as the objectives of the interdisciplinary course. As was mentioned earlier, each theme developed during the three-year cycle will incorporate those objectives and include those specific to the theme of that particular year. The goals and objectives for the futuristics theme are as follows. (Source - Futures unlimited - Teaching About Worlds To Come.)

1. Futures education should attempt to help students understand the concept of alternative futures.

   1.1 Students should be given opportunities to investigate a variety of alternative futures.

   1.2 Students should be given opportunities to understand the differences among possible, probable, and preferable futures.

2. Futures education should help the student to understand the concept of change.

   2.1 Students should be aided in understanding the various ways of anticipating, coping with, and adapting to change.

   2.2 Students should be aided in understanding the possible effects of changes on their personal goals and aspirations.

3. Futures education should promote an understanding of the possible modifications in human behavior necessary for the future.

   3.1 Students should be aided in understanding and appreciate the need for wider and more active involvement in public affairs.

   3.2 Students should be aided in understanding the need for more cooperative and socially responsible behavior in the future.

   3.3 Students should be aided in understanding the ways in which ordinary individuals can influence the course of future developments.

   3.4 Students should be encouraged to become more creative and imaginative in dealing with future possibilities.

4. Futures education should promote a holistic view of the natural and social worlds.

   4.1 Students should be aided in understanding the concept of "spaceship earth" and the effects of human activities on the ecological system.

   4.2 Students should be aided in understanding the concept of human interdependence in a global society.

   4.3 Students should be aided in understanding the interdependencies of interacting systems such as the ecological system, economic system, nation-state system, etc.

5. Futures education should promote an understanding of important societal trends and their implications.

   5.1 Students should be aided in understanding the major dilemmas facing the world from such trends as population growth, pollution, energy shortages, etc.

   5.2 Students should be aided in understanding dilemmas caused by trends in a variety of areas such as technology, biomedical research, international relations, work and leisure, computer science, communications, etc.

   5.3 Students should be provided with opportunities to investigate alternative approaches to these dilemmas.

6. Futures education should promote an understanding of the relationships between values and the future.

   6.1 Students should be aided in understanding the nature of values, their effects upon human behavior, and their social, economic, political, and environmental consequences.

   6.2 Students should be given opportunities to clarify and consider the implications of their own values with respect to the future.

7. Futures education should promote an understanding of the ideas of major futurists and the methods of futurism.

   7.1 Students should be aided to become familiar with the important contributions to futurist thought and how these can be applied to the study of contemporary issues.

   7.2 Students should be given opportunities to develop skill at using a variety of forecasting methodologies.

8. Futures education should promote an understanding of the relationships between past, present, and future.

   8.1 Students should be aided in understanding that the future begins in the present and that actions taken today will help to determine the shape of things to come.

   8.2. Students should, while studying the future, be encouraged to maintain an appreciation for the past and for those ideas and values which have lasting significance.

9. Futures education should promote a variety of additional perspectives and inquiry strategies.

   9.1 Students should be given opportunities to develop images of alternative futures.

   9.2 Students should be encouraged to use a variety of inductive, deductive, intuitive, and creative thinking strategies to investigate and contemplate the future.

   9.3 Students should be given opportunities to develop and express their own personal goals and aspirations for the future.

   9.4 Students should be encouraged to maintain an optimistic attitude toward the future, despite the serious dilemmas which the world faces.

10. Futures education should promote the general improvement of basic research and communications skills.

    10.1 Students should be given opportunities to read challenging materials and to locate information in a wide variety of ways.

    10.2 Students should be given opportunities to communicate their feelings, attitudes, and ideas about the future in ways which demonstrate their competencies in written and oral expression.

Each of the above goals and objectives will reveal the relationship to the specific objective and the substance by coding as indicated in the theme plans.

FUTURISTICS COURSE

I. INTRODUCTION TO THE FUTURE — THEME PLAN

Philosophy: By adding a future dimension to the learning process, we hope to provide direction, purpose, and greater meaning to whatever is being studied. By integrating past, present, and future we act to strengthen a neglected link in the learning process. Much has been written about changes that will be occurring in our students' lifetimes. We shall begin to look at the field of futuristics, and have the students examine their response to it.

General Goals:
Futures education should aid the student to understand the concept of change; promote an understanding of the relationships between values and the future; promote an understanding of the ideas of major futurists and methods of futurism; promote the relationships between past, present, and future; provide additional perspectives and inquiry strategies; development of basic research and communication skills.

Justification: 1, 4, 5, 10a, 10b, 10c, 10f

Outline of content/suggested strategies:

I. Orientation to Course
   - A. Introduction
   - B. Course philosophy
   - C. Goals/Objectives
   - D. Expectations
   - E. I.E.P.
   - F. Staff

II. Probing the future
   - A. Attitudinal Survey "Optimist or Pessimist About the Future"
   - B. How malleable do you believe the future is to human desire and will?

III. What is Futuristics
   - A. Frame of reference/staff
   - B. Frame of reference/student

IV. Future: past, present, and future
   - A. Exploration and Discovery of the Brave New World

Strategies: introductions, attitudinal survey, panel discussion, film, student critiques, readings, seminar discussions, group evaluations (various media)

Materials:

Toffler, A., "Future Shock," Horizon ----- Spring, 1970, pp. 82-89.
Fitch, R.M. Futures Unlimited: Teaching About Worlds to Come, Bulletin 59, 1979. "The Futures Field," Chapter 1, pp. 1-18

Evaluation:

Student self-evaluation developed in seminars through various media; orally presented in large group.

Skills developed: Anticipating, coping, and adapting to change. (2.1)
Relationships between: values, human behavior, social, economic, political, and environmental consequences. (6.1, 6.2)
Value clarification with respect to future. (7.1)
Futurists thought as applied to contemporary issues. (8.1, 8.2)
Relationships between past, present, future. (9.3)
Expression of student's own personal goals.
Research and communication skills. (10.2, 10.2)

FUTURISTICS COURSE

II. THE FUTURE AS HISTORY — THEME PLAN

Philosophy: Predecessors of modern futurists raised questions, some of which have been answered in our time. By studying earlier examples, students will evaluate those solutions in light of the present day situation, and study methods of prediction which earlier futurists used.

General Goals: Futures education should: aid the student to understand the concept of change; the possible modifications in human behavior necessary for the future; important societal trends and their implications; relationships between values and the future; the ideas of major futurists and the methods of futurism; the relationships between past, present, and future; perspectives and inquiry strategies; basic research and communication skills.

Justification: 1, 3, 4, 6, 10a, 10c, 10d, 10f

Outline of content/suggested strategies:

I. Introduction to the Unit
   A. Concepts
      1. Change
      2. Time
   B. Age of Convulsive Change
   C. Terrors of Tomorrows: Realities and Bugaboos
   D. Shape of Things To Come
II. Futuristic Past - Themes
III. Looking at the Future from the 1900's
IV. Evaluation

Strategies: Films, guest speakers, interviews, readings, book selections, letter writing to the future, scenario writing.

Materials:

Film: "Dr. Heidegger's Experiment
Leguin, U. Enchantress from the Stars.
Malthus, T.R. "Essay on Population"
Darwin, C. Origin of Species. Selections.

Evaluation:

1. Scenario writing
2. Letter to your great-grandchild
3. Choose your society (W. Va. vs. Magalopolis)

Skills developed:

Ability to anticipate, cope with, and adapt to change. (2.1, 2.2)
Social behavior, methodology and alternative and imaginative future possibilities (3.2, 3.3, 3.4)
Trend analysis and alternative approaches to dilemmas (1.1, 5.3)
Values clarification (6.1, 6.2)
Forecasting methodologies (7.2)
Prediction from the past (8.1, 8.2)

GF D-7, B-19, 20

FUTURISTICS COURSE

III. Rhapsody for a New World THEME PLAN

Philosophy: The students will examine the evolution of music to develop impressions of music of the future. They will develop a better understanding of the interrelationships between music and social change wherein the future of one is directly affected by the other.

General Goals:

Both the lyrics and the abstract sound of music will be analyzed in relation to major social issues. The students will then search for and/or develop possible types of future music considering social changes and how music reflects these changes.

Justification:

2, 4, 6, 8, 10b, 10e

Outline of content/suggested strategies:

A. What is Music?
B. Evolution of Music/Musical Prophets
C. Musical Sounds of the Future
D. Functions of Music in the Future
E. Composers, Performers, and Listeners of the Future
F. Music's Effect on the Future

Strategies: Students will interpret selected lyrics; listen to appropriate recordings and live performances; participate in telephone interviews; participate in group discussions; develop futuristic musical instruments, compositions, and notation systems.

Film: "The World of Harry Parch"
Interviews: Telephone/ PA System
Computer
Recordings: Classical and Pop
Readings: excerpts from various books

Evaluation:

Teacher designed test

Participation/Observation

Skills developed:

Art appreciation
Creative thinking
Communication
Analyzing

GF D-7, B-21, 22

FUTURISTICS COURSE

THEME PLAN

IV. THE FUTURE AS PROGRESS AND CHALLENGE

Philosophy: Since World War II, and especially over the past decade, interest in and concern about the future have grown rapidly. Students will now move into consideration of future present and attempt to examine and project current issues into the future.

GENERAL GOALS: Futures education should attempt to help students understand the concept of alternative futures; understand the concept of change; understand the possible modifications in human behavior necessary for the future; promote a holistic view of the natural and social world; promote an understanding of important societal trends and their implications; promote an understanding of the relationships between values and the future; promote an understanding of the ideas of major futurists and methods of futurism; relationships between past, present, and future; variety of perspectives and inquiry strategies; basic research and communication skills.

Justification: 2, 4, 5, 6, 9, 10a, 10b, 10c, 10d, 10f

2. To be challenged through opportunities for divergent production.
4. To be challenged by discussions among intellectual peers.
5. To be challenged by experiences which promote understanding.
6. To be challenged by the opportunity to see interrelationships in all bodies of knowledge.
9. To be challenged by the opportunity of applying their abilities to real problems in the world of production.
10. To be taught the following skills:
    a. critical thinking
    b. creative thinking
    c. research
    d. problem solving
    e. decision making

Outline of content/suggested strategies:

I. Introduction to Future Present
   A. Post-Industrial Civilization
   B. Industrial Civilization
   > problems and processes

II. Futuristics: methods and tools of the discipline

III. The futurists and their contributions

IV. Spaceship Earth
   A. Quality of life vs. standard of living
   B. Overpopulation; Finite systems
   C. Energy and Environment
   D. Technology
   E. Urbanization

V. Minicourses
   A. Science Fiction
   B. Science
   C. Social Science

VI. Evaluation

Strategies: Film, Delpni technique, readings; student presentations, seminars, large group discussion; minicourses.

Materials:
Readings:
Student Handbook for the Study of the Future,
Ed., Didsbury, F., Jr.,
"Probing the Future,"
Futurist Forecasts Reexamined
Chapter 2, pp. 12-25
Cornish, E. The Study of the Future
Ch. 4,5,6,7

Evaluation:

Teacher designed test

Participation/Observation

Skills developed:
Investigation of alternative futures (1.1)
Concept of Change (2.1)
Modification of human behavior (3.1, 3.2, 3.3)
Spaceship earth (4.1, 4.2, 4.3)
Societal trends and implications (5.1, 5.2)
Values and the Future (6.1)
Methodology (7.1, 7.2)
Relationships between past, present and future (8.1, 8.2)

GF D-7, B-23, 24

FUTURISTICS COURSE

THEME PLAN

V. THE FUTURE AS INVENTION

Philosophy: Futures education offers a positive environment for consideration and development of probable, possible, preferable, and plausible futures. Students will conclude their study of futuristics by providing possible solutions to today's problems and thereby provide alternatives for modification of human behavior necessary for the future.

General Goals: Futures education should attempt to help students understand the concept of alternative futures; understand the concept of change; understand the possible modifications in human behavior necessary for the future; understanding of the relationships between values and the future; the ideas of major futurists and the methods of futurism; promote an understanding of the relationships between past, present, and future.

Justification: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10a, 10b, 10c, 10d, 10e, 10f, 10g

Outline of content/suggested strategies:

I. Introduction to the future of futures
   A. Preferable
   B. Possible
   C. Plausible
   D. Probable

II. Tools of the futurists
   A. Extrapolations
   B. Scenarios
   C. Trends
   D. Cross

III. Importance of Alternative Futures
   A. New Age Consciousness
   B. Student Projects

IV. Evaluation

Strategies: lecture, discussion, films, readings, group discussion, tools of the futurist - applied.

Materials:
Didsbury, F., Jr. The Study of the Future: Student Handbook (Chs. 2, 3, 4, 5)
Cornish, E. The Study of the Future, World Futures Society, 1977. (Chs. 4, 12, 13)

Evaluation:

Student research project
Oral and written critiques
Blue Book examination

Skills developed:

Research
Communication
Higher level of thinking
(1.1, 1.2, 2.1, 2.2, 3.1, 3.2, 3.3, 3.4, 4.1, 4.2, 4.3, 5.1, 5.2, 5.3, 6.1, 6.2, 7.1, 7.2, 8.1, 8.2, 9.1, 9.2, 9.3, 9.4, 10.1, 10.2)

FUTURISTICS COURSE

RESOURCE PROJECT TIME

THEME PLAN

Philosophy: Students complete research on a selected futuristic problem including a systematic approach, preparation, and solution. By doing this they will be taking information and developing a new outlook on a particular problem as well as learning the process of prediction and solution to problems, and project planning.

General Goals: Futures education should attempt to help students understand the concept of alternative futures; understand the concept of change; promote a holistic view of natural and social worlds; promote an understanding of important societal trends and their implications; understanding of the relationships between values and the future; the ideas of major futurists and methods of futurism; relationships between past, present and future; perspectives and inquiry strategies; basic research and communications skills.

Justification:

1, 2, 3, 4, 5, 6, 7, 8, 9, 10a, 10b, 10c, 10d, 10e, 10f, 10g

Outline of content/ suggested strategies:

I. Introduction to projects
   A. Expectations, procedures, grading
   B. IEP's in relations to projects (setting goals and objectives)
II. Scientific method and creative problem solving
III. Organizational planning/structuring your time to work on projects
IV. Methodologies (based on individual needs)
   A. IMC and research
   B. Creative thinking
   C. Futuristic strategies
V. Reviews
VI. Evaluation

Strategies: experiential exercises on problem solving and creativity, lecture, library research, independent study, interviews, guest speaker, student presentations, student-faculty reviews

Materials:

IMC, resource person, field experiences, interviews, mentorship.
"A New Attitude Toward the Future," Ch.6, pp. 78-92.
"Basic Principles of Futurism," Ch. 2, pp. 93-102.
"Methods for Studying the Future," Ch. 8, pp 103-126.
"Futurists and Their Ideas," Ch. 9, pp. 127-187

Evaluation:

Completed project
Criterion determined by mutual agreement between student and teacher

Skills developed:

Research procedures
Direct experimentation
Retrieving information
Judging reliability
Managing information overload
Value judgment
Problem solving

GF D-7, B-27, 28

VIII. COURSE OUTLINE 1981-1982 - GLOBAL STUDIES

The third year of this curriculum design focuses on the present, from a global perspective. The overall feeling that "No Man Is an Island" is central to the theme. (Source: The Whole Earth Papers.)

1. General Goals

   A. Global studies should help students become acquainted with the contributions of all peoples of the world, particularly those of developing nations.

   B. Global studies should help students understand the major concerns which exist on an international level.

   C. Global studies should help students realize that international problems impinge upon them at a local and personal level, and that many aspects of their individual behavior have global implications.

   D. Global studies should help students recognize, evaluate, and possibly, generate effective solutions to international concerns.

   E. Global studies should help students recognize that enlightened responses toward global concerns can generate a sense of personal worth.

2. Theme Plans

   A. Introduction to Global Studies

   B. Methodologies: Tasks of the global scholar

      1. Delphi Technique
      2. Trend Analysis
      3. Extrapolation
      4. Scenario

   C. Global Concerns

      1. Psycholinguistics/Communication
      2. Human Rights/Geopolitics
      3. Conflict - Living in the Nuclear Age
      4. Ecology
      5. Mathematics
      6. Esperanto

   D. Cultural Contributions

      1. Theater - first marking period
      2. Art - second marking period
      3. Music - third marking period
      4. Computer - ongoing

   E. Local Awareness

   F. Products/presentations as a result of independent study

A. GLOBAL STUDIES: Introduction

THEME PLAN

Philosophy: The global studies theme for the 1981-82 school year is designed to interrelate the themes of classical and historical studies, and futuristics with present concerns on an international level.

General Goals: Global studies should help students become acquainted with the contributions of many peoples of the world, particularly those of developing nations; understand the major concerns which exist on an international level; realize that international problems impinge upon them at a local and personal level, and that many aspects of their individual behavior have global implications: help students recognize, evaluate, and possibly generate effective solutions to international concerns; and recognize that enlightened responses toward global concerns can generate a sense of personal worth.

Justification: 1, 4, 5, 6, 10a, 10b, 10c, 10d, 10f

Outline of content/suggested strategies:

I. Orientation to Course

- A. Introduction
- B. Course philosophy
- C. Goals/Objectives
- D. Expectations
- E. I.E.P.
- F. Staff

II. What is Global Studies?

- A. Frame of Reference/staff
- B. Frame of Reference/student

Strategy: Introduction, panel discussion, film, guest speaker, student critiques, readings, seminar discussions, group evaluations (various media)

Materials:
Filmstrip
"No Man Is An Island"
Speaker - Dr. Shostak, Drexel University
Readings from the Whole Earth Papers
Filmstrip - Humanities: Man in the Nuclear Age

Evaluation:

Student and teacher evaluation

Discussion

Teacher Observation

Skills developed: *

Critical thinking - 7, 8, 16, 17
Creativity - 18, 19, 20, 21, 22, 23, 24
Communication - 27, 28
Personal development - 29, 34, 35

* Coded in terms of "Resource Course Skills List"

GF D-8, A-4, 5

B. GLOBAL STUDIES: Methodologies

THEME PLAN

Philosophy: To facilitate their progress through a global studies program, students must become familiar with the methodologies employed by global scholars.

General Goals: The students will learn and use some or all of the following techniques; delphi technique, trend analysis, extrapolation and scenario.

Justification: 3, 4, 6

Outline of content/suggested strategies:

I. Methodologies

A. Introduction
B. Tools of the global researcher

II. Demonstration of Techniques

Strategy: Large group presentation
Group seminar
Simulation

Materials:

Reprints from selected sources.

Evaluation:

Observation of student's practical application of some or all techniques.

Skills developed:

Critical thinking
Problem solving
Decision making

C. GLOBAL CONCERNS: Communication/ Psycholinguists (1)

THEME PLAN

Philosophy: "Every major philosopher beginning with Plato has made the study of language an important part of his work: (Lefevre, p. 61). Since human thought and linguistic operations are so closely related, a course in global studies must examine the ways that language mirrors the mind.

General Goals: Students will begin to recognize that language differences reflect cultural differences, and global relationships are, therefore, inevitably affected by these differences. Theoretically, an awareness of psycholinguistic impingements on global relations can help one understand those relations.

Justification: 1, 3, 4, 5, 6, 8a, 10a, 10b, 10c, 10d

Outline of content/suggested strategies:

I. Readings: Selections from the following:
   A. Eric Berne, What Do You Say After You Say Hello?
   B. Carl Lefevre, Linguistics, English, and the Language Arts
   C. Winfred Lehmann, Historical Linguistics: An Introduction
   D. James E. Alatis, ed., Monograph Series on Languages and Linguistics
   E. Charles C. Fries, "Linguistics: The Study of Language"
   F. Edmund Carpenter, Oh, What a Blow That Phantom Gave Me
   G. Peter Farb, Word Play

II. Selected topics for individual research

III. Center for Humanities Filmstrip: Media and Meaning: Human Expression and Technology.

Strategy: Outside reading, class discussion, brief student presentations in a seminar format.

Filmstrip - Students will be encouraged to deal with readings and student presentations at the higher taxonomic levels.

Materials:

Textbook (Word Play, Farb)
Reprints from other sources
Filmstrip

Evaluation:

Teacher and peer evaluation of student-led seminars
Teacher evaluation in terms of the goals stated above

Skills developed:

Research skills to a certain extent
Critical thinking in dealing with materials and ideas
Creativity
Communications skills

C. GLOBAL CONCERNS: Human Rights (2) THEME PLAN

Philosophy: "There is a growing worldwide abuse of human rights, with violations of international standards so widespread that we are facing a global human rights crisis." Loescher

General Goals: Students will acquire knowledge of human rights; the effects of the violation of human rights; the protection of human rights, and the future of human rights.

Justification: 1, 2, 3, 4, 5

Outline of content/suggested strategies:

I. The Human Condition
   - A. Basic Concepts of Human Rights
   - B. Interaction of Groups

II. Dynamics of Group Behavior
   - A. Characteristics
   - B. Interaction of Groups
   - C. Minority Syndrome

III. Violations of Human Rights
   - A. Racial
     1. South America
     2. Africa
     3. U.S.A.
   - B. Class, Caste, and Sex Discriminations
   - C. Economics
   - D. Brainwashing > extreme forms
   - E. Genocide

IV. Future of Human Rights

V. Question of Morality: Kohlberg's Levels of Morality

Strategy:
1. Simulation
2. Role playing
3. Guest speakers
4. Films
5. Student presentations

Materials:

Glaser, Kurt and Stefan T. Passony, Victims of Politics
Claude, Richard P. Comparative Human Rights
Loescher, Gil - Human Rights: A Global Crisis
The United Nations & Human Rights
Kohlberg's Moral Development Filmstrip

Evaluation:

Students will develop their own declaration of human rights with success evidenced through teacher and student evaluation.

Skills developed:

Critical thinking
Problem solving
Research
Communication

C. GLOBAL CONCERNS: THEME PLAN

Conflict - Living in the Nuclear Age (3)

Philosophy: Today we are confronted with the promise and terror of the Nuclear Age. Is nuclear energy the answer for the future? Are we threatened by nuclear armament proliferation? What are the social, cultural, and philosophical impingements of the atom upon our life in the 20th century?

General Goals: To become aware of the impact that the nuclear age has on the world in terms of social, economic, political, and cultural crises and accommodations.

Justification: 1, 3, 4, 5, 9, 10a, 10b, 10d, 10f

Outline of content/suggested strategies:

I. Reading selections

A. Harrison Brown - The Crisis of Affluence
Learning to Live in a Technolcolgical Society - Toward a world community

B. Roberta and Joseph Moore - The Problem of War: A Global Issue

C. Carroll L. Wilson - Nuclear Energy: What Went Wrong

D. Joseph I. Coffey, ed. - Nuclear Proliferation: Prospects, Problems, and Proposals

E. Frank Barnaby - World Arsenals in 1980

F. Ruth Sivard - World Military and Social Expenditures

G. Terrorism: A Problem of Political Violence

Strategy: Students will read and critique the selections. Oral critiques of the material will be given by the students.

Students will be required to write a position paper on nuclear armaments, nuclear energy or life in the nuclear age.

Materials:

Filmstrip - Energy Politics
The Nuclear Controversy
Doomsday: 21st Century?

Evaluation:

Student written critiques of articles
Student oral critiques of articles
Prepared questions on articles
A position paper on one of three topics

Skills developed:

Critical thinking - oral and written critiques
Creativity
Communication skills
Evaluation, analysis, synthesis - position paper

GF D-8, A-12, 13 Rev. 10/5/84 ds

C. GLOBAL CONCERNS: Ecology (4a)

THEME PLAN

Philosophy: Although there are regions of the world which have low population growth rates and strong economies, such as, North America, Japan, and Europe, three quarters of the planet's population lives in "Developing" nations which have an annual growth rate of 2 percent or higher and an average annual per capita income of less than $1,500. The affluent nations cannot remain isolated and wasteful for all the world's peoples are affected by the ever expanding population and its ramifications.

General Goals: To become aware of the impact which the rapidly expanding population of humans has upon other global systems and to suggest possible solutions to these problems.	Justification:

Outline of content/suggested strategies:

I. Impact of Human Population Growth

- A. History of world population growth
- B. Present statistics of population growth
- C. Compare growth rates of developing and developed nations
- D. Describe trends in life expectancy and explain cause and effects
- E. Population structure and projection

II. Limits of Earth

- A. Food Supply: agriculture, grain revolution
- B. Environment: natural systems
- C. Natural Resources: air, water, minerals
- D. Economics: technology, pollution, growth
- E. Energy: alternative forms
- F. Solutions and the quality of life
- G. Global management
  1. Cross-impact matrix
  2. Extrapolation of present data
  3. Debate: methods of population control
  4. Filmstrip: Global Emergency Food and Population

Materials:	Evaluation:	Skills developed:
1. Draper, L. Kauffman, Jr. Teaching of the Future Chap. 9 - Global Survival pp. 175-204 2. Fuller, R. Buckminster, Critical Path 3. Ward, Barbara, Progress for a Small Planet	1. Written evaluation 2. Generation of solutions list 3. Observation of attitudes and actions 4. Involvement in solutions	1. To determine cause and effect relationships 2. Analysis of complexities of population problems 3. Determining priorities for individual and collective lifestyles 4. Developing solutions

C. GLOBAL CONCERNS: Ecology (4b) THEME PLAN

Philosophy: The global age of scarcity reveals the critical shortages the world will soon be facing from food to land to raw materials. Students should be aware of the pervasive attitudes which have produced some wasteful societies and learn that strict control and imaginative strategies will be needed to meet both short-term and long-range crises.

General Goals: To understand that the world's supply of resources is finite and that conservation is required and to develop plans to make the limited supply available to the world.

Justification:

Outline of content/suggested strategies:

I. Mineral Resources
   - A. Fossil Fuels
   - B. Renewable and nonrenewable resources
   - C. Recycling and waste

II. Water Resources
   - A. Fresh water supply
   - B. Marine waters
   - C. Water pollution
   - D. Control of water pollution

III. Air Resources
   - A. Use and abuse of the atmosphere
   - B. Control of air pollution

IV. Land
   - A. Living Space (development)
   - B. Agriculture

1. Speaker: Richard James, Schuylkill Valley Nature Center
2. Simulation Game: Population Explosion
3. Filmstrip Series: Rich Nations/Poor Nations
4. Filmstrip: Doomsday: 21 Century?

Materials:

Ehrlich, Paul R. and Anne H. Population, Resources and Environment

Turk, J. Introduction to Environmental Studies

Ward, Barbara and Dubos, Rene, Only one Earth

Evaluation:

1. Written evaluation
2. Observation of attitudes and actions
3. Discussion
4. Student critique

Skills developed:

1. Problem solving
2. Decision making
3. Critical thinking

C. GLOBAL CONCERNS: Ecology (4c)

THEME PLAN

Philosophy: In this century, we have virtually identified the whole successful functioning of an economic system with a steady increase in the consumption of energy. As the economy grows, more energy helps fabricate goods and services of all kinds. Developing nations go through suitable stages of growth pulled up by developing nations. It is the sense of ultimate interdependence between prosperity and energy use that has led to the emergence of an "energy gap" as the center of the controversy.

General Goals:

1. Students will understand the magnitude and implications of the global energy problem.
2. To aid the students in evaluating the strengths and drawbacks of the various forms of alternative energy sources.
3. Students will suggest methods of energy conservation.

Justification: 2, 4, 9

Outline of content/suggested strategies:

I. Present energy status

- A. Fossil fuel supplies
- B. Nuclear fuels - controversy
- C. Renewable energy sources
- D. Energy production, transportation, and pollution

II. Future energy needs and sources

- A. Electricity - household, industry, technology
- B. Alternative sources - advantages and disadvantages
  1. Solar
  2. Geothermal
  3. Tidal
  4. Nuclear

III. Energy conservation

1. Filmstrip: Global Emergency Energy
2. Panel Discussion: Representatives from pronuclear and antinuclear positions. (Philadelphia Electric vs. Frank Romano)
3. Evaluation of sources activity
4. Discrimination between forms of energy which are clean / nonpolluting and those which are polluting / dangerous

Materials:

Carr, Donald E.
Energy and the Earth Machine

Evaluation:

1. Written evaluation
2. Student product energy prospect and/or experiment
3. Lists of energy conservation methods

Skills developed:

1. Communication
2. Evaluation
3. Determining priorities
4. Discriminating between safe and unsafe energy sources

THEME PLAN

C. GLOBAL CONCERNS: Appreciation for Global Mathematics (5)

Philosophy: The students will be exposed to methods of computations used around the world. By doing this, they will realize the universality of the language of mathematics. They will also become aware of what mathematicians are doing to study and solve world problems.

General Goals: Global studies should help students appreciate the universality of mathematics as well as its "globality."

Justification: 1, 2, 3, 4, 7, 8, 9, 10a, 10b, 10c, 10d, 10f

Outline of content/suggested strategies:

I. Trachtenberg
   - A. History
   - B. Computations

II. Chisanbop
   - A. History
   - B. Computations

III. Abacus
   - A. History
   - B. Computations

IV. Global Aplications (current relevancy)
   - A. Metrics -- Whatever happened to the U.S.A.?
   - B. World Hunger
   - C. World Bank
   - D. Excerpts from foreign texts
   - E. Foreign Aid

V. Flatland (optional)
   - A. Study -- Critique
   - B. Develop own "Sphereland"

Materials:

IMC, Math Department, magazine articles
Trachtenberg, Scientific America,
Complete Book of Chisanbop,
Mathematica by Bulganni Firenze,
Future Worlds by John Gibbin
An Introduction to the History of Mathematics by H. Eaves,
Flatland by Abbott,
School Science and Mathematics Journal,
Popular Science Magazine,
Film,
Resource People - students who have studied mathematics abroad,
Mathematics Teacher,
Global Issues by Switzer and Mulloy,
World Eagle

Evaluation:

Tests, quizzes, critiques, worksheets.

Skills developed:

Trachtenberg, Chisanbop, Abacus, Interpreting statistics, evaluation, analysis, synthesis, critical thinking

GF D-8, A-20, 21

THEME PLAN

C. GLOBAL CONCERNS: Esperanto -- An Attempt at a Second World Language

Philosophy: Because the world is fast becoming a "global village," where any person can visit any place in a few hours, the need for a second language is becoming more apparent. Esperanto was developed to bring nations and peoples closer together through the common bond of the same spoken language. Is it possible for this politically unbiased, easy to learn language to achieve worldwide acceptance? Or will cultural and political barriers prevent it from increasing in popularity and usage.

General Goals:	Justification: 3, 4, 7, 8, 10a
1. Students wil attempt to communicate in Esperanto. 2. Students will try to determine whether this second tongue will ever be successful.	

Outline of content/suggested strategies:

I. Introduction
   A. Purpose
   B. History
   C. Current Usage

II. Pronunciation

III. Vocabulary

IV. Grammatical Structure

V. Evaluation

1. Visual presentation: charts and board explanation.
2. Vocabulary and grammar skills.
3. Tapes (First Course In Esperanto).
4. Letters to Esperantists.
5. Student discussion on Esperanto vs. English as a second world language.

Materials:	Evaluation:	Skills developed:
Audio Kit:. A First Course in Esperanto, William Auld Esperanto, John Cresswell and John	1. Periodic grammar and vocabulary quizzes 2. Daily conversational participation 3. Blue book essay question	1. Pronunciation skills 2. Communication skills 3. Comparative language 4. Critical thinking

D. CULTURAL CONTRIBUTIONS: Theatre (1) THEME PLAN

Philosophy: "The Whole Frame of the World is the Theatre."

- J. Donne

General Goals: Students will experience global dissent as reflected in theatre and dance.	Justification: 1, 2, 3, 4, 5, 6, 8, 9, 10a, 10b, 10d, 10e, 10f, 10g

Outline of content/suggested strategies:

I. History of American Dissent as reflected in Theatre and Dance
   - A. Fragmented societies
   - B. Communistic Theatre
     1. Censorship
     2. Firm Economic Base
   - C. Propogandist Theatre
   - D. American Theatre

II. Politics and the New Theatre and Dance

III. Dramatic and Scientific Images as reflected in Theatre and Dance

Materials:	Evaluation:	Skills developed:
1. Theatre Filmstrips 2. Theatre and dance lectures 3. Acting, tap, jazz, modern dance training	1. Completed dances in tap, jazz, modern 2. Completed journals of emotional development 3. Observation of attitudes and actions 4. Discussion	1. Verbal communication 2. Nonverbal communication 3. Creativity 4. Personal development 5. Motor skills involved with dance 6. Recognition of types of dissent in theatre and dance 7. Develop better understanding of theatre and dance

GF D-8, A-24, 25

D. CULTURAL CONTRIBUTIONS: Art (2) THEME PLAN

Philosophy: The student will examine the art of the Arab world as it is applied in crafts and architecture.

General Goals:	Justification:
The student will experience Islamic art as an integral part of Arab culture and thus the thinking of a people who are of direct concern to us regarding world peace.	5, 6, 9, 10b, 10c, 10d

Outline of content/suggested strategies:

I. Slide/lecture
   Characteristics of Arab art
   Regulations and limitations of Arab art
   History of Arab art

2. Lab
   Design a motif for a ceramic tile
   Transfer design onto 8" x 8" ceramic tile

3. Field trip to Islamic Mosque, Washington, D.C.

Materials:	Evaluation:	Skills developed:
80 tiles 8" x 8" Underglazer Glazer Kiln furniture	The student will show understanding of: 1. Arab art by employing characteristics of same in own design 2. The tile glazing process by successful completion of the tile	Creative thinking Motor control of the hand Utilizing a specific style of art

GF D-8, A-26, 27

D. CULTURAL CONTRIBUTIONS: Music (3) THEME PLAN

Philosophy: It is becoming increasingly important that we gain a greater understanding of other peoples. Music is one means toward that end.

General Goals: Help students become aware of:

1. the musical contributions of non-Western cultures.
2. the influence one culture's music may have on that of another.
3. global concerns (i.e., politics, human rights, poverty) as they are reflected in music.

Justification:

Although music is not an international language, it does occur around the world usually in forms which can be appreciated regardless of language and cultural barriers, thereby, bringing culturally diverse people closer together.

Outline of content/suggested strategies:

I. Divide non-Western music into four geographic areas (i.e., Africa, Asia, Oceania, The Americas)
2. Use recordings/filmstrips of non-Western music
3. Review Kamehameha visit
4. Invite guests representing several ethnic groups
5. Examine and experiment with instruments of other cultures (i.e., split drum, bamboo flute)
6. Selected readings with discussion

Materials:

Recordings
Filmstrips
Books and magazines
Instruments from NPJHS guests
Kamehameha interview

Evaluation:

Test: essay and multiple choice

Skills developed:

1. Recognize general types of non-Western music
2. Develop new vocabulary relevant to the musical contributions of non-Western cultures
3. Develop a better understanding of the similarities and differences between Western and non-Western music

GF D-8, A-28, 29

APPENDIX A

"A NEEDS ASSESSMENT FOR GIFTED EDUCATION"

Van Tassel, Joyce, Journal for the Education of the Gifted. Vol. 2, No., 3, Spring, 1979

Compilation of needs of gifted youngsters:

1. To be challenged by activities that enable them to operate cognitively and affectively at complex levels of thought and feeling.

2. To be challenged through opportunities for divergent production.

3. To be challenged through group and individual work demonstrates process/ product outcomes.

4. To be challenged by discussions among intellectual peers.

5. To be challenged by experiences which promote understanding of human value systems.

6. To be challenged by the opportunity to see interrelationships in all bodies of knowledge.

7. To be challenged by special courses in their areas of strength and interest which accelerate the pace and depth of content.

8. To be challenged by greater exposure to new areas of learning within and without the school structure.

9. To be challenged by the opportunity of applying their abilities to real problems in the world of production.

10. To be taught the following skills:

    a. critical thinking
    b. creative thinking
    c. research
    d. problem solving
    e. coping with exceptionality
    f. decision making
    g. leadership

APPENDIX B

RESOURCE COURSE SKILLS LIST

Independent Study

1. Developing skills needed for library research work.
2. Developing skills needed for field research.
3. Developing suitable procedures for solving problems related to research.
4. Using suitable procedures for solving problems related to research.
5. Using organizational skills to develop a plan for doing research or solving problems.
6. Persevering with a research problem in the face of frustration.

Critical Thinking

7. Using specified criteria to classify the purposes of various statements in a piece of writing.
8. Inferring a writer's intention from clues in his/her writing.
9. Recognizing the relationship between form and meaning in a literary or artistic work.
10. Recognizing a writer's point of view or bias.
11. Producing a unique written communication.
12. Producing a unique oral communication.
13. Producing a unique musical or artistic composition.
14. Designing a plan or a proposed set of steps to carry out a particular task.
15. Providing a set of explanations or hypotheses to account for situations or phenomena.
16. Making critical judgments (about statements, beliefs, values, ideas, theories, etc.) in terms of evidence and/or criteria in that material itself.
17. Making critical judgments (about statements, beliefs, values, ideas, theories, etc.) in terms of evidence and/or criteria which does not exist within that material but which is selected or remembered by the individual.

Creativity

18. Using the content of a lesson or unit to generate numerous different ideas.
19. Interpreting the same material in a variety of ways.
20. Thinking about different kinds of problems in different kinds of ways.
21. Drawing conclusions from given material.
22. Making predictions or projections based upon given material.
23. Applying ideas developed in one situation to different kinds of situations or problems.
24. Developing unique ideas or responses to a given lesson or unit.

Communication

25. Making oral presentations designed to "reach" the audience.
26. Using body language and understanding its implications.
27. Interpreting spoken, written or artistic productions in terms of the creator's intent.
28. Listening to a presentation or communication in order to distinguish between its elements or parts.

Personal Development

29. Forming judgments based upon a personal value system.
30. Coping with personal failure.
31. Coping with failure in others.
32. Coping with personal success.
33. Coping with success in others.
34. Coping with problems such as adjusting to unfamiliar situations.
35. Reacting to situations on the basis of a (developing) consistent philosophy of life.

APPENDIX C

INDEPENDENT STUDY COMPONENT

A. Advisor's Responsibilities

1. Help student select a topic.
2. Help student plan a proposal.
3. Help student develop a working bibliography.
4. Help student develop a realistic timetable.
5. Assist student in preparing a rough draft of the results of his/her research.
6. Assist student in developing an effective oral presentation of the results of his her research.
7. Evaluate students based upon
   a. progress reports (minimum of 5).
   b. quarterly conferences.
   c. teachers perceptions of students' task committment.
   d. final research paper and oral presentation.

B. Student's Responsibilities

1. Within a reasonable time, identify an area for study.
2. Select a theme or subject from that area for scholarly investigation.
3. Become acquainted with the literature related to that area.
4. Develop a proposal and working bibliography.
5. Through intensive research and investigation, validate the proposal and develop related ideas.

B. Student's Responsibilities (continued)

6. Submit progress reports which reflect accurately and thoroughly the status of the project.
7. Be prepared to meet with advisor for a progress review at least once each quarter. These conferences should be opportunities for both student and advisor to ask and answer intelligent questions.
8. Prepare and submit a first draft of the paper presenting the results of research.
9. Prepare and submit a final draft of the paper following accepted scholarly format.
10. Devise an effective means for making an oral presentation.

C. General

1. Task commitment is an essential requirement for this aspect of the program.
2. When independent study time is provided during eighth period, students must make proper use of building facilities. Students should be in the IMC only when using IMC materials.
3. Should you find that you have exhausted the resources of our IMC, begin to gather materials from other sources (examples: college libraries, resource people, etc.) and use them in the advisor's classroom. The GRC pass must not be abused.
4. The possibility always exists for a mentorship within the independent study program, if needed.

APPENDIX D

GRADING POLICY

GIFTED RESOURCE COURSE

The Gifted Resource Course is a multidisciplinary program involving a number of teachers from a variety of the arts and disciplines. Since most of the students in the program are working with more than one advisor, each quarter's grades are determined at a meeting of the teaching team where each student's progress is reviewed in terms of the following criteria:

Independent Study (25%) This portion of the grade reflects the student's work in the following areas:

- the proposal and working bibliography
- prompt and thorough completion of progress reports
- appropriate use of independent study time (including the IMC)
- adequate evidence of work in addition to that completed during independent study time provided during class periods
- completed first draft of the project report
- final written project report

(Note: The oral presentation based upon the independent study project(s) constitutes the final exam grade.)

Appendix D - Grading Policy

Gifted Resource Course (continued)

Large Group Efforts (25%) This portion of the grade reflects the student's work in the following areas:

- participation and discussion
- presentations
- notebooks

Seminar Responsibilities (25%) This portion of the grade reflects the student's work in the following areas:

- reading assigned materials
- participation in discussions
- completion of assignments

Mini-course (25%) This portion of the grade will be determined by the mini-course instructor and will reflect the student's work in the following areas:

- reading assigned materials
- presentations
- taking notes where appropriate
- completing assignments
- quizzes and tests
- other written work

Students who are involved totally in independent study projects are evaluated in terms of their performance by a mentor and the advisor, as well as the student.

For purposes of assigning report card grades and final mark, the following system will be used:

100 - 90	=	A
89 - 80	=	B
79 - 70	=	C
69 - 60	=	D
59 - --	=	F

The final exam grade will be based upon the student's independent study paper and presentation. The final course grade will be computed on the basis of the following formula:

First Quarter	=	2/9
Second Quarter	=	2/9
Third Quarter	=	2/9
Fourth Quarter	=	2/9
Final Exam	=	1/9

APPENDIX E

ASSESSMENT

Student's performance in the content areas is evaluated by teacher designed tests, self-evaluation, participation/observation, and student projects. However, the specific objectives of the course which deal with the student's success in specific skill development are based upon teacher, student, and parent input in a skill analysis sheet. (Appendix B.) This curriculum design incorporates the three basic methods of assessing learner achievement: paper and pencil, observation of the student skill development, and verbal interaction. Each year, as the student's I.E.P. is developed, recommendations are made to refine or develop the appropriate skill.

Course evaluation forms and parent opinion surveys that were used to evaluate the design of the program are also attached. (Appendix E-1 and E-2.)

To evaluate the first year of the program, a study was completed by the team coordinator. The study is attached. (Appendix E.) It is the present task of the administration and the team of teachers to develop and administer instruments that will evaluate the gifted program in terms of description, identification, mechanics, evaluation, administration, and service.

APPENDIX E-1

COURSE EVALUATION FORM

This form is composed of twenty statements. You will receive another sheet on which to indicate your responses to these statements. The answer sheet will be numbered, so that your response should be placed beside the number of the statement which you are dealing with.

1. The instructor made course objectives clear.
2. Classroom teaching agreed with designated course objectives.
3. The instructor explained clearly his/her methods of evaluation and grading.
4. The instructor manifested a thorough knowledge of the subject.
5. The instructor was enthusiastic about the subject.
6. The instructor was well-prepared for class.
7. The instructor's presentation was clear and interesting.
8. The instructor was available for individual consultation.
9. Lectures were well-coordinated with content of text.
10. Lectures were congruent with subject matter of the course.
11. Assignments were correlated with course objectives.
12. Tests/examinations reflected most important facets of course.
13. Challenging questions and problems were welcomed as bases for discussion.
14. Independent thinking was encouraged.
15. There was freedom to express opinions.
16. Student insights/viewpoints were welcomed.
17. The difficulty factor for a course of this level was about right.
18. This course has stimulated my interest in this subject area.
19. I would recommend this course to others.
20. In general, I would classify this as a very fine course.

Appendix E-1 (continued)

COURSE EVALUATION - ANSWER SHEET

This form is an opportunity for you to express opinions about this course and its progression. Check one column for each statement that appears on the Course Evaluation Form. The columns are explained below.

Column 1: SA = Strongly Agree with the statement as it applies to this particular course or instructor.

Column 2: A = Agree.

Column 3: D = Disagree.

Column 4: SD = Strongly Disagree.

Column 5: NA = Not Applicable or Don't Know. The statement does not apply to this course, or you just cannot give a knowledgeable response.

	SA	A	D	SD	NA
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					

GF D-8, B-7, 8

APPENDIX E-1

PARENT OPINION SURVEY

EVALUATION OF GIFTED PROGRAM
NORTH PENN SCHOOL DISTRICT

School_____ Date_____

Grade_____ Type of Gifted Program_____
(Self-Contained/Resource Room/Subject Areas)

Directions: The purpose of this Parent Opinion Survey is to gather information to help us assess the strengths and weaknesses of the district program for gifted students. Please check the box that indicates the extent to which you agree or disagree with the following statements as a result of your child's participation in the Gifted Program.

KEY:
SA = Strongly Agree
A = Agree
D = Disagree
SD = Strongly Disagree

	SA	A	D	SD
My child:				
1. has improved in academic skills				
2. finds school work more interesting				
3. has developed new and continuing interests				
4. has better problem solving skills				
5. is better able to plan and complete long-term projects				
6. is better able to communicate his/her ideas				
7. is more creative				
8. has improved self-image				
The Gifted Program:				
9. has not caused too much pressure on my child				
10. a. has not caused my child to be looked upon as "different"				
b. has not caused problems at home -- as with brothers and sisters not included in the program				

Appendix E-2

Parent Opinion Survey (continued)

My child:

	SA	A	D	SD
11. finds school different this year from what it was before his/her inclusion in the program				
12. has been offered guidance services relative to his/her participation in the program				
13. has benefited from the program				
14. has enjoyed the program				
15. has benefited from being grouped with other gifted students				
16. Through report cards, conferences, the I.E.P., etc., I have an accurate picture of what my child is doing in school				
17. The mechanics of the program (integration with regular teachers, etc.) are working smoothly				

The following two questions are to be answered by parents with students in the Gifted Program in grades eight or ten. Do you feel from his/her participation in the program that your child:

18. has become more aware of career opportunities				
19. is being better prepared to meet college demands				

GF D-8, B-10

Parent Opinion Survey (continued)

1. What do you feel are the strengths of the Gifted Program?

2. What do you feel are the weaknesses of the Gifted Program?

3. What suggestions do you have for improving this program?

4. What suggestions do you have for further parent involvement in the Gifted Program?

APPENDIX E-3

ASSESSMENT RESULTS OF THE 1977-78 GIFTED CURRICULUM

I. Nature of the Study

In compliance with the recommendation of the committee to evaluate the North Penn Gifted Program, a Resource Course for gifted students grades ten, eleven, and twelve was designed. Staff members from each of the four major subject areas -- English, social studies, mathematics, and science, developed a curriculum which could provide not only a strong case of worthwhile content but also a variety of opportunities for students and teachers to explore areas of mutual and individual interest.

The nature of this study is to resubmit the student survey to test the hypothesis: Does the Resource Course design for gifted students grades 10-12 reflect the recommendation of the 1977-1978 evaluation committee and students?

The responses to the survey are tabulated with percentages calculated to reflect opinions. This information is presented in Table 1 and Table 2. Tabulations to open-ended questions are included in Appendix E. Comparison of the results including recommendations are included in the evaluation.

II. Procedure

The student opinion survey, designed to elicit students' responses to their experiences with the program and their perceptions of its effectiveness, consisted of 19 statements to which the students responded on a continium from strongly agree to strongly disagree. In addition, the questionnaire contained three open-ended questions, asking the students what they liked most and least about the program, and suggestions for improvement.

The responses to the statements were tabulated and percentages were calculated to reflect the opinions on each statement. This information is presented in Table 1. The tabulated responses to the open-ended questions are included in Appendix A.

The survey tabulations and open-ended questions from the original survey constitute Table 2.

III. Results

There were 34 responses, except where indicated, from students in grades 10, 11, and 12 at North Penn High School. Their opinions also were closely divided between agree/disagree on over half of the questions.

However, 70 percent or more felt: the academic work was more challenging; they enjoyed being in the program, they benefited by being grouped with other gifted students; they were placed in the gifted classes they requested; their peer relationships had not suffered; the gifted classes are different from regular classes; and they have benefited from the gifted program this year. Only 39 percent said they had counseling relative to the program, and only 31 percent said they could complete all assignments without pressure.

III. Results (continued)

The strengths most often stated were:

1. the exposure to new and different things
2. the critical and abstract thinking
3. the strengthening of self-discipline and individual creativity

The weaknesses most often expressed were:

1. not enough independent study time or structure
2. too many lectures versus student presentations
3. lack of structure in scheduling

Basically these students see the program as a good concept. However, because it is so new it still needs further development and organization. Student recommendations will be reviewed by the staff and administration.

In comparing the results of the original survey 70 percent reflected similar feelings in all areas except preparation for college which dropped to 58 percent. Student opinion raised in the area of counseling and completing assignments without pressure.

IV. Implications

The present evaluation indicates a useful baseline to measure the future growth in the program. The wealth of data collected and analyzed by those implementing the program or affected by it provide necessary insights and information for making recommendations for improvement and/or change in the current program.

V. Appendix

The North Penn School Board requested that the program for gifted students be evaluated during the academic year 1977-78. The purpose of the evaluation was to examine the program for gifted students, elementary and secondary levels in terms of the expressed objectives of the program and of the effectiveness of its implementation. In the pretest-posttest design, standardized measures were used to assess student growth between the fall of 1977 and the spring of 1978. Growth in basic skills were measured by the California Test of Basic Skills (CTBS); growth in creativity, by the Torrance Tests of Creative Thinking (TTCT); growth in self-esteem, by the Coopersmith Self-Esteem Inventory (SEI).

In the posttest - only aspects of the evaluation, opinion surveys designed by the Committee were used to help evaluate the program's impact and perceived effectiveness. In the spring of 1978, questionnaires were completed by gifted students and parents of these students to secure input regarding the program's implementation, their evaluation of its effectiveness, and their recommendations for improvement.

APPENDIX E-3

STUDENT OPINION SURVEY
(Secondary Level)
EVALUATION OF GIFTED PROGRAM

NORTH PENN SCHOOL DISTRICT

TABLE I - 1977-78

School North Penn High School Date _____

Grade Grades 10, 11, and 12 Subject Area(s) _____

Directions: The purpose of this student opinion survey is to gather information to help us assess the strengths and weaknesses of the district program for gifted students. Please check the box that indicates the extent to which you agree or disagree with the following statements as a result of your participation in the Gifted Program.

KEY:
SA = Strongly Agree
A = Agree
D = Disagree
SD = Strongly Disagree

* Total number answering - 34 (except where indicated)

* ANSWERS IN %

As a result of my participation in the Gifted Program:	SA	A	D	SD
1. My academic work has improved	0	41	58	0
2. My academic work is more challenging this year.	26	47	26	0
3. I have developed new interests which I continue to follow.	23	38	38	0
4. My reasoning ability has improved *(33)	8	47	35	8
5. I am better able to plan and complete long-term projects	3	18	94	9
6. I am better able to communicate my ideas	8	47	44	0
7. I am more creative	5	41	47	5
8. I feel better about myself	8	29	52	8
9. I am able to do all of the work assigned to me without feeling too much pressure	5	26	47	20
10. My relationships with my peers have not suffered	44	44	2	0
11. I feel that my gifted courses are different from regular courses *(33)	27	61	9	0
12. I have counseling conferences related to my participation in the gifted program *(33)	3	36	48	12
13. I have benefited from the gifted program this year. *(32)	18	59	18	3
14. I have enjoyed being in the gifted program this year *(32)	31	46	21	0
15. I feel I have benefited by being grouped with the academically gifted students in some of my classes	35	44	14	5
16. I am aware of the goals of the gifted program. *(33)	3	51	36	9
17. I was placed in the gifted classes that I requested. *(30)	3	18	94	9
18. I am more aware of career opportunities as a result of my participation in the gifted classes *(32)	0	3	84	1
19. I feel that my gifted classes will provide a better preparation for the demands of college	29	29	35	5

APPENDIX F

CURRICULUM EVALUATION

An evaluation design that could be followed in evaluating the current Gifted Program at North Penn High School is being reviewed.

GIFTED (NPHS) D-8, B-16
Rev. 9-24-84 ljl

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